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RAIN---ITS RELATION TO AGRICULTURE.

The laws that govern the fall of water from the clouds are now sufficiently understood by the learned to be of practical value to the farmer. The operation of these laws presents many interesting phenomena, some of which, so far as they relate to the interests of the farmer, we propose to notice.

It is said, Eccl. i: 7, "All the rivers run into the sea; yet the sea is not full; unto the place from whence the rivers come, thither they return again." Water ascends to the regions of the air, by evaporation, from the surface of the earth, from the surface of all vegetables, and from the surface of water in seas, lakes and ponds; this is formed into clouds, which, in their course over the earth, meet with a colder region of air and are condensed into drops of rain, which again descend to the earth.—This round of evaporation and rain is constantly going on, supplying our wells, springs and rivers, and the moisture to the earth necessary to support vegetable life.

The evaporation that takes place from the surface of the water in our latitude, during a year, is about 60 inches, while that from the earth is about 25 inches.

Under the laws that govern the descent of rain, the quantity that falls, during a year, varies very materially in different places, owing to the local causes which we shall endeavor to explain.

In selecting a new home, it is a matter of vital importance for the farmer to know something of the records of the rain guage, as well as of other matters connected with his proposed locality. And the government of the United States would do well, in connection with other meteorological records to require throughout the frontier of our country, and at the various land offices, a regular record of the rain guage to be kept and published annually.

The average quantity of rain that falls annually in different portions of the United States, varies, probably from 45 or 50 inches to less than 20 inches. In general, those portions of the country situated near the sea have more rain than those more remote from it, even in the same latitude, and this difference is much greater in some other portions of the globe than it is in the United States, and the amount of rain that falls near the Atlantic and Pacific borders is much greater than it is in the intermediate region of country during the same period. In warm countries evaporation is rapid, and, as a consequence, the air being overloaded with vapor, it is generally discharged in heavy showers, so that it is in some localities more than 200 inches fall in one year. The evaporation from the surface of the water being much greater than from the land, clouds that are wafted by the winds from the sea to the land, condense their vapor upon the colder hills and mountain sides, and yield rain, while the clouds driven by the wind from the interior to the sea afford no rain.

The trade winds that constantly blow from

the sea to the land on the eastern slope of South America, in passing up the sides of the mountains and high table lands, become cooled and lose their capacity to hold the vapor as before. The vapor is condensed into clouds, and they soon send forth abundant rains. These winds, in their onward course over the chain of mountains, having parted with all the water they contained, leave the western side a desert. It is the high lands and mountains and forests that condense the vapors and cause the rain to descend. The winds from the Mediterranean sea, though loaded with vapor, afford no water to the desert of Sahara—for its plains are too low to be cooled in that latitude. A chain of mountains between that sea and the desert would render that region fertile.

In some of the countries of Europe, bordering upon the sea, there are many rainy days in a year, although the quantity of rain that falls is not so great as in some other parts of the world where the rains are much more violent. For instance, in England it has rained 156 days in a year, giving 32 inches of water. In Western France it has rained 152 days, in the same time, and gave a fall of 25 inches; in Eastern France 147 days and 22 inches; in Central and Northern Germany, 150 days and 22 inches; in Hungary 111 days, with 17 inches rain, while in Eastern Prussia, it rained 90 days, yielding but 14 inches of water.

In the section of country lying in the range of Kentucky and Missouri, the probable average of rain that falls annually, does not differ materially from 28 to 30 inches, though the present season it will considerably exceed that quantity. In this section, in seasons of extreme heat, when evaporation is greatest, it often occurs that the growing season is marked by excessive drought. The great importance of seasonable showers, to the farmer, is well understood; but where these are liable to fail when most needed a correct knowledge of his business will enable the farmer, in a great measure, to counteract the effects of drought.

In winter and early spring the earth is usually saturated with water and the streams and springs are all discharging their greatest quantity. Winter grain and grass will flourish at a low temperature, while the earth is filled with water almost to the point of saturation, but with Indian corn, the great Western staple, the case is different; this requires a temperature of the earth and air that is not reached until the excess of moisture in the soil is carried off by evaporation, and, in seasons like the present, this sometimes does not occur until too late a period for the crop to mature, hence the importance, in many sections, of underdraining the soil. In a soil of proper texture, and thoroughly underdrained, and broken up with the subsoil plow to the depth of three feet, neither drouths nor excessive rains need be much feared by the cultivator. A large portion of the water that falls is suspended by the particles of earth, and a kind of subteranean reservoir is formed, from which the moisture is given off according to the demands of the growing crop. Some soils, composed of a proper proportion of sand and clay, resting upon a tolerable porous subsoil of gravel, are naturally underdrained. These are denominated warm soils, and generally afford an early growth and a more sure and full harvest, but where the soil lacks this natural preparation, it is the duty, as well as the interest, of the farmer, to improve its texture by draining and deep plowing.

It has been ascertained by experiment that, at the close of winter, when the soil is filled with water, a cubic foot of this saturated earth, in its specific gravity, compared with water, is as five to three, and it is not in a fit condition to receive the seeds of the farmer until it has parted with one-twelfth of its weight, and when it has lost one-sixth of its weight by evaporation, it is not too dry to support vegetation. Every foot of earth in depth at the point of saturation contains seven inches of water, and it is probable that it will support the most vigorous growth, under a proper temperature, when the water has been reduced to about three inches. The roots of grass and all cultivated crops will descend to a much greater depth than one foot, provided the earth be well pulverized, but where the ground is broken up but six inches deep it holds subject to the purposes of vegetation one inch and a half of water. If the cultivation goes to the depth of one foot, the quantity of available water is doubled, and a corresponding advantage is gained in breaking up and pulverizing the soil to a greater depth, by forming a proper medium through which the water can rise by capillary attraction, and supply the growing crops from the superior parts of the soil, so that while one foot of earth will hold, for the uses of vegetation, three inches of water, three feet will, when well prepared, hold so much that it can part, without becoming too dry, with three inches, and then receive in the course of four days another rain, adding three inches in depth without injury to the crop. So that it has already been clearly de-

monstrated, that a well drained, thoroughly pulverized soil is better suited to ward off the evil effects of drouth as well as of flood. It has also been proven that a soil which holds no water for the use of plants below six inches, will suffer from drought in ten days in the months of June, July or August. If the soil is in a suitable condition to hold water to the depth of three feet, it would supply sufficient moisture for the whole months of June, July and August.

Bishop Watson made some experiments which went to show that, "during the time of bright, hot sun, when there had been no rain for a month, the evaporation from the grass was at the rate of .035 inches in twelve hours. Another experiment, one day after a thunder storm, gave .087 inches in twelve hours. The mean is .061 inches." The evaporation of .035 inches in twelve hours, in a drought of a month's continuance, allowing the evaporation to go on only in the day time, gives 1.05 inches. This must be principally supplied to the plants during the nights in the form of vapor and dew, as it is not probable, after a month without rain, that earth tilled to the ordinary depth would afford much more moisture than it receives from these sources.

There are many more facts that have been developed by the most carefully conducted experiments, in connection with evaporation and filtration, to which we will refer at another time—facts that go to prove that the great mass of farmers have yet much to learn on the subject of land draining and the best method of preparing the soil to afford the most productive and profitable crops.

Farmers.—Adam was a farmer, while yet in Paradise, and after his fall was commanded to earn his bread by the sweat of his brow. Job, the honest, upright and patient, was a farmer, and his endurance has passed into a proverb. Socrates was a farmer, and yet wedded to his calling, the glory of his immortal philosophy. St. Luke was a farmer, and yet noblest of them all. Burns was a farmer, and the muse found him at the plow, and filled his soul with poetry. Washington was a farmer, and retired from the highest earthly station to enjoy the quiet of rural life, and present to the world a spectacle of human greatness. To these may be added a host of others who sought peaceful repose in the cultivation of their mother earth.

NOTES OF TRAVEL EASTWARD.

Closing our sanctum for a time, with a view to make some observations among the gardeners and farmers of other States, we left Louisville on the 9th of June, spending some time in Cincinnati, Cleveland, Buffalo and Rochester, during the height of the strawberry season, which has proved unusually favorable for this crop. But as we now design to speak of more substantial farming, we shall reserve our notes on the strawberry for their appropriate place, under the Horticultural head.

Leaving Rochester we passed on to Geneva, New York, and spent a day in looking over the farm of R. J. Swan, to whom was awarded, by the New York State Agricultural Society in 1857, the highest premium for the best conducted farm in the State. This farm is situated in Seneca county about two miles from Geneva, immediately upon the border of Seneca Lake. From the beauty of this location we were first induced to visit this farm in 1850, about the time that Mr. Swan became the purchaser; it was then in the ordinary condition of farms in that section of the country, and from the wet, tenacious character of the soil, it had never been a source of much profit to its former proprietor. But under the management of an intelligent, practical farmer, it was just one of those pieces of land susceptible of the most marked improvement. Mr. Swan, though a young man, raised in the city of New York, and educated to the profession of a merchant, had been compelled to abandon the counting house, on account of his health, and seek some other employment, and finally placed himself under the tuition of Mr. John Johnston, a gentleman whom we have before spoken of as one of the best farmers in the country. After a year's practical experience as a farmer, Mr. Swan became attached to this pursuit, and with his health restored he resolved to make it his business for life, and after another year's tuition he became the purchaser of this farm, and at once set about its improvement. This farm contains 350 acres; soil a clay loam, of a character, under proper treatment, adapted to the growth of grain and grass. But like most land in this section of the State, it required thorough draining. As we have said, Mr. Swan received his first lessons on farming from Mr. Johnston who was the first to introduce tile draining into the United States, and who has converted an almost sterile farm into one of the greatest productiveness, and as this farm immediately joins Mr. Johnston's, of course the character of the

soil was similar and equally susceptible of improvement by draining. We will here remark that the importance of land draining is but little understood by the farmers of our country. It is not the low, flat land only that requires draining, but almost all lands of a clayey or compact sub-soil are greatly benefitted by this operation, and it is the importance of this fact that induced us to visit this farm with the view to describe in detail the results of draining.—The surface of this land is high, and considerably undulating, so much so as always to render it free from surface water, even after the heaviest rains, and yet the water retained in the soil was sufficient to render it cold and greatly retard the growth of farm crops, and consequently subjecting them to insect depredations, summer droughts and autumnal frosts and the loss of the wheat crop by being thrown out by frost in winter. These facts having been practically demonstrated, to the wonder and astonishment of the whole neighborhood by the operations of Mr. Johnston, Mr. Swan, of course, was not at a loss to determine the first steps necessary to be taken in the improvement of his farm. The first year after taking possession of this farm he manufactured and laid 16,000 drain tiles, and by the close of 1852 he had laid 72,550 pieces of tile, in trenches varying from two and a half to three feet deep, completing the drainage of 200 acres. The result of this beginning more than gave satisfaction by the increased returns from the soil, which encouraged the draining of the whole farm in the shortest possible period, so that in the course of another year the entire 350 acres had been supplied with a series of earthen veins at a distance varying from 25 to 50 feet apart, according to the varied character of the soil and surface of the land, making in the aggregate sixty and two-third miles of drains, at a cost of $5,800, or at the rate of $96 per mile, being thirty cents per rod, taking the whole farm together. With the present facilities for draining, Mr. Swan divides the cost as follows:

Cost of tile per rod, twelve and a half cents, digging trenches, laying tile and filling them, three cents per rod, making twenty seven and a half cents per rod for the entire work.

The experience of Mr. Johnston and Mr. Swan has established the fact that the increase in the wheat crop in two years, and frequently in one year will more than pay the entire cost of draining. A member of the State Agricultural Society's Committee appointed to examine this farm, states in the report, that he chanced to visit this farm in 1852, when a field of 40 acres that had not then been drained, was in wheat, and uninjured by the midge, yielded but 200 bushels of grain. The same field being in wheat in 1857, when visited by the Committee, yielded twenty bushels to the acre, notwithstanding it was greatly injured by the insect, and it was the opinion of the Committee that but for this, the entire field would have given a crop of thirty-five or forty bushels to the acre. The Committee further state that on their first visit to the farm in the early part of May in that year, the corn was at least two weeks earlier than the corn on undrained land in the neighborhood, and its advance was so apparent as to be the subject of remark among the farmers, and the same was the case not only in regard to corn but of wheat, oats and other crops. In regard to wheat we were most forcibly struck with the contrast between a large field belonging to Mr. Swan, and one immediately adjoining, belonging to a neighbor, on land that had not been drained. The crop on the drained land was in full head, standing five feet high and as thick as we ever remember to have seen a crop of this grain, while that on the undrained field was not more than two feet high, without a head to be seen. One important advantage of draining, is, in securing the earliest possible maturity of the wheat crop in this section of the country, and thus escaping destruction by the wheat midge. The crop often escapes in whole or in part when it can be pushed forward a week or two before the ordinary period of filling, while that grown on undrained land is so late that it is now frequently destroyed by the insect. During our visit to the farms in this neighborhood, the *wheat midge* was at full maturity and was engaged in depositing its eggs in the heads of the grain, and so numerous were they that during certain periods of the day they swarmed in clouds, and myriads of them were drowned in Seneca Lake, and drifting upon the lee shore in winrows for miles in extent, filling the atmosphere with a stench from their decaying bodies, notwithstanding a single insect is so minute as to be visible with the unaided eye but a short distance. We examined many heads of the forming grain with the view to witness the stages of developement of this insect. At first it is only visible with the aid of a magnifying glass, in a few days a minute insect of a yellowish tinge is visible upon the side of the embryo grain, and when the crop and the insect develope at the same period some grains will frequently contain more

than half a dozen of these insects, which feed upon the milk of the grain and entirely destroy it, leaving the head abortive. But to Mr. Swan's farm.

It is well here to remark that all the improvement we here witnessed in the growing crops is not the result alone of draining. With this improvement the land is thoroughly manured, and a complete rotation of crops, adapted to the character of the soil, is maintained, into which clover always enters. There is no straw or other vegetable matter allowed to go to waste upon the farm, but all is carefully husbanded and is used for littering the yards, stables and stalls where the stock is kept. The improvements on Mr. Swan's farm in every other department are in perfect keeping with his draining, manuring, &c., and although a very young man, his success has been such that he has had no reason to regret that circumstances rendered it necessary for him to abandon the counting house for the farm. We wish that the thousands of young men who are flocking from the country to the cities to find employment in mercantile pursuits, in which from careful estimates it has been found that ninety-seven in every hundred finally fail, would profit by the example afforded by the experience of Mr. Swan and go and do likewise. Upon the north, Mr. Swan's farm is bounded by that belonging to the heirs of the late Mr. Delafield, which had been chosen for the State Agricultural College and experimental farm, but Mr. Delafield dying before the contract was confirmed, the property reverted back to the heirs, and another farm in the town of Ovid, in the same county, has been purchased, containing upwards of 680 acres of land for the location of an Agricultural College, &c. The foundation of the College is already laid and the building is rapidly progressing. Before the death of Major Delafield, so striking were the advantages of draining upon Mr. Johnston's and Mr. Swan's farms that he commenced the system of draining, and many others in the same neighborhood, as well as in many other States, are also making rapid progress in this important branch of farming.

Mr. Johnston's Farm.—We also visited Mr. Johnston's farm and spent some time with him in riding over it. After several additions to it, this farm now contains 300 acres, every acre of which has been drained. The united length of the drains exceeds sixty miles. The crops usually grown upon this farm are wheat, clover, and grass, with some corn and oats. Wheat yields from 28 to 40 bushels per acre, and the difference between the smallest and the greatest yield is generally caused by the wheat insect. Corn averages, one year with another, about 50 bushels, and of clover and grass we have never seen better in any country, and yet the land when purchased by Mr. J., was considered of but little value, as the soil was regarded as *cold, wet* and heavy, but by draining and manuring few farms are more productive. Mr. Johnston is not a "fancy farmer." The leading question with him, in any operation is, "*will it pay?*" and the practical result almost uniformly is of the most substantial and satisfactory character.

We enquired particularly of Mr. J., the rotation in which he pursued with his crops. His leading crops are wheat and hay, although he usually plants about twenty acres in corn and as many more in oats annually. Wheat is sown on fallow land, the clover being turned under in May, the land plowed very deep, and again plowed just before sowing. In October, after the wheat is sown, timothy seed is sown on the same land, and about the 1st of April following clover seed is added; this mixture makes an excellent hay. At the end of two years, that portion of the land designed to be planted in corn receives a good dressing of manure upon the surface in the fall; long experience having proved that top dressing is the most effectual method of applying manure. Some fields have been kept in wheat and clover alternately for many years, and even with this limited rotation, under the course of manuring adopted by Mr. J., the land is wonderfully increased in fertility. There is one department connected with this system which we will particularly specify, and that is the profit arising from the sale of clover seed—the importance of which we have long endeavored to impress upon our readers. The second season after the wheat is harvested, the first crop of clover is cut and cured for hay—the second crop is cut for the seed, yielding usually about four bushels to the acre, which sells at $7,00 per bushel,—the whole cost of cutting and cleaning does not exceed one dollar a bushel, leaving a clear profit of about $27, per acre, besides the hay, and the value of the roots and leaves to the soil in the form of manure. We noticed another important fact upon this farm, that if observed by farmers generally would afford a valuable lesson in tillage. We allude to the wheat and other crops growing immediately on the line occupied by the drain tiles. These *veins* were distinctly observable at a great distance from

the increased height and luxuriance of the crop, owing, no doubt, to the trenching and deep culture afforded in opening the lines for the drain tile. We enquired whether there was any care taken in filling up the trenches to restore the soil again to the surface, and we were informed that it was thrown in promiscuously, and frequently done with the plow, and as often putting the soil to the bottom as in any other position, and yet the wheat is standing from eight inches to a foot higher than that growing between the drains.

All the crops, except wheat and clover seed, grown upon this farm are fed to cattle and sheep, and besides these, large quantities of oil cake are purchased and also fed. Mr. J. has gained as high a reputation among the butchers of New York for his skill in fattening beef and mutton, as he has among the farmers of the country for his success in farming in general. In addition to the profits arising from the sale of cattle and sheep, the value of the manure returned to the farm is more than equal to the profits on the stock sold. The manure heap is regarded as the great source of the profits of farming. In addition to the application of yard manure, Mr. J. has also been in the habit of using salt and lime,—of the former he applies about 300 lbs. per acre, and of the latter from 40 to 100 bushels per acre.

As we have intimated Mr. Johnston regards the partial exemption of his wheat crop from destruction by the Midge, to its being eight or ten days earlier than crops in general under ordinary culture. He thinks the use of salt to the land also hastens the maturity of the crop at least four days. The usual time of sowing his wheat is about the 10th to the 20th of September. Besides the advantages gained in this respect, from the use of salt, he says it causes a brighter straw and a much plumper and fuller grain. He sometimes applies 75 barrels of salt in a single season to his land. How much is to be attributed to the salt for the superiority of the wheat crop this season, we are unable to judge, but we are sure we have seen no wheat during our travels this year that promises such a yield as that upon this farm.

There were other matters connected with the system of fattening animals, &c., that the want of time did not admit of full inquiry and which we shall reserve for another visit on our return.

AMERICAN INSTITUTE FARMERS' CLUB.

We had the pleasure of meeting with the Farmer's Club, in the rooms of the American Institute in New York, on Monday, June 28th.—Those who are in the habit of reading the reports of the transactions of this club in the city papers know the value of the discussions that frequently take place there. We were much interested with a short lecture delivered by Dr. Waterbury upon the structure and functions of insects, and the difference existing between the crustaceous and the vertebrated classes of the animal creation. This subject was illustrated by a variety of diagrams and drawings upon the blackboard, and also by the dissection of a lobster, showing the wonderful structure of this class of animals. So valuable are these illustrations and lectures regarded by the club that a resolution was unanimously passed, recommending their repetition in the city schools, and before other farmers' clubs and agricultural societies.

One hour of the club is usually devoted to the discussion of miscellaneous subjects and one hour to the regular subject chosen at the previous meeting. The subject on this occasion, was the means of *Renovating Worn out Land and Land called Barren.* Such discussions are of vast practical value to farmers, and we should be glad to know that a Farmers' Club had been formed in every town in the land.

A Curious Case in Hog Cholera.—Solon Robinson read before the club a letter detailing a curious case connected with the disease of hogs, called hog cholera. The letter was from a farmer in Gallatin Co., Ill., stating on the authority of Rev. John Crawford, of Crawford, in that county, that the bones of swine, dying with what is called hog cholera. decay as rapidly as the flesh, and that portions of the skin outlast the bones. He wants scientific men to give attention to this strange consumption of the solids, and thinks that it may be the means of suggesting a remedy for the disease so fatal and so pecuniarily distressing to a vast number of farmers in the West.

It has been asserted that lands long under cultivation and pasturage have parted with so large a portion of the natural phosphates, that cattle pastured upon these lands do not receive the necessary proportion, and hence are sometimes attacked with a disease called bone sickness. Cattle in this condition have a great hankering for old bones and will eat them with great apparent relish. Prof. Mapes asserted that a calf will sometimes be seen so weak that it cannot stand, owing to the lack of phosphate of lime necessary to give strength and firmness to its bones, caused by a deficiency of that ma-

terial in the soil, where the cow is pastured, and that strength will be immediately imparted to the calf by feeding a quantity of bone meal to the cow for a few times. From these facts it was suggested that some light might be shed upon the nature of the disease so fatal to swine about this time. This is a new feature to us in connection with the hog cholera, and we are curious to know whether this fact always attends this disease. We know that cows are sometimes fond of chewing a bone, and this has led to the manufacture and sale of *bone meal* for the purpose of feeding to cattle, but whether this disease arises from the exhaustion of the phosphate of lime in the soil, we are not prepared to determine, but we are quite sure that there is no lack of this ingredient in the soil from which the swine are fed and that have died in such vast numbers in the west, from hog cholera, within the last two years, but the fact of the speedy decomposition of the bones of the animals thus dying, is an interesting one, and affords grounds for scientific investigation, which we hope the subject will receive.

Rust on Wheat—A Preventive.—Mr. Robinson read an extract from another letter received from Mr. James Laurie, of White Co., Ind., setting forth that he had been successful in preventing the rust on wheat by furnishing two men with a long cord, one at each end and directing them to pass over the field just after the fog, which he thinks causes the rust, has settled upon it, as the rope agitates the grain and makes the water run to the ground just as it does by the agitation of the wind, which it is thought prevents rust when it occurs while the wheat stems are loaded with moisture.

If any of our readers have tried this remedy we should be pleased to hear from them on the subject.

Agricultural Colleges.—The Legislature of Iowa, at its session in March, established an Agricultural College, and has set apart public lands for its endowment. The farm is to consist of not less than 640 acres. Wm. Duane Wilson, Esq., editor of the Iowa Farmer, one of the trustees named in the act, has been appointed secretary of the board. $10,000 was appropriated for the purchase of the farm.

A bill to establish an Agricultural College in Minnesota has passed the Legislature, and the same located at Glencoe, McLeod county, near the centre of the State. The younger States are actually going ahead of those old enough to be their great-grandfathers.

BEET RESIDUE FOR THE MANUFACTURE OF PAPER.

In France and other portions of Europe, immense quantities of beet root are grown for the manufacture of sugar, alcohol, &c. Heretofore the residue of the root has been employed only as feed for farm animals. Numerous efforts have been made from time to time to prepare this material in such a way as to render it available for the manufacture of paper, but without success, until Dr. Robert H. Collyer of London, after a series of more than eight hundred carefully conducted and recorded experiments, carried on through a period of nearly three years, when the result proved successful. This material when combined with that ordinarily used, made a better article of paper then without it. This substance imparts a cohesive, tenacious and agglutinating quality, which to cotton and other fibrous substances used in the manufacture of paper renders it more tough and flexible and in every way superior for printing paper to any thing that has yet been employed. When fifty per cent of this "Patent Prepared Albumen," with an admixture of thirty per cent of cotton and twenty per cent of linen are united, it is said to produce a paper nearly or quite as strong as parchment.

It is claimed that this Prepared Albumen is impermeable to moisture, and unaffected by climate, and is therefore liable to no damage by age or transportation to any part of the world. Patents have been granted to Dr. Collyer in France, Austria, Prussia, Belgium and the United States. Several mills are now in operation in Great Britain, and contracts have been entered into for supplying the principal London daily and weekly papers, many of which are now using it exclusively. The British Government have adopted the use of this material for the manufacture of paper for cartridge cases, at the Royal Factory at Woolwich, and it has already been reported upon favorably, and that the saving in expense has been in the ratio of $50,000 per annum.

The people of the United States are a reading people, and there are more newspapers printed in this country than any other, and we believe more than all the world besides, and to supply the immense demand with the raw material for this quantity of paper, is a matter of very great interest to our people The introduction of a newmaterial for paper making —especially one that promises advantages to manufacturer and consumer of so marked a character as this, is a matter of great impor-

tance. Many attempts have been made within a few years past to substitute other suitable fiber to take the place, in part, of cotton and linen which are the only staple articles for the better qualities of paper, but without success.

Thus far, all attempts to manufacture sugar from the beet root grown in this country, have failed, probably owing to some defects in our climate to afford the necessary quality of sacharine and chrystalizable matter for profitable manufacture. Yet if the French article proves to be half that is claimed for it, it can be imported to better advantage than the immense quantity of rags that now reach our shores from foreign countries. It is said that the beet root residue, fully prepared and bleached ready for use can be furnished at least twenty per cent less than any other material ever before used in the manufacture of paper, while the new material possesses advantages in several particulars not claimed for any substance heretofore used.

The new material will soon be offered to the manufacturers of paper in this country, when its merits will be fully tested.

ACCLIMATION AND HYBRIDIZATION OF PLANTS.

In the garden at Kew, England, for seventy years past, upwards of twenty thousand plants grow in the open air, and this within a space which, if left to nature would not have contained 200 indigenous plants. These plants have been collected from all quarters of the globe. Besides these there are many thousand other plants that are cultivated in the hot and green houses.

Ten thousand experiments on seven hundred species of plants have produced but two hundred and fifty hybrids. Isolation continues for a while, some of these hybrids, yet they would soon disappear if left to themselves.

We have many advantages in the United States for an extensive garden for the collection and cultivation of exotics not possessed in England, and we should be glad to see such a garden as that at Kew, in the City of Washington, or in a more suitable place, under the management of competent persons, at the expense of the United States. Such a garden, in connection with an experimental farm might be so conducted as to be of great practical advantage to the country at large. But we are encouraged to expect but little in this useful department, either from the General or State Governments, at present. We hope that time will teach wisdom and that future generations will be more favored in these respects.

THE GREAT RAINS OF 1858.

The quantity of rain that has fallen over a large portion of the United States from the 1st of May to the 13th of June, has hardly been equalled at any former period within our observation. Upon the eastern sea-board the quantity of rain that fell was less than in the Western States--the quantity falling gradually increasing towards the West.

In May the rain on the Atlantic border hardly reached three inches, but on the 12th and 13th of June the rain that there fell reached 4 3-8 inches by the rain guage. At Pittsburg the quantity that fell in May amounted to about ten inches, and on the two days mentioned above in June, it reached five inches.—Farther west, say in Indiana and Illinois, the entire quantity that fell in the six weeks mentioned, could not be less than sixteen or eighteen inches, nearly equal to one-half of the average amount of rain that falls in an entire year. It not unfrequently happens that several inches of rain will fall over a limited extent of country, but these great rains extended from east to west, at least one thousand miles, and north and south, over a territory of one half that extent, filling to overflowing all the tributaries that empty into the Father of Waters, flooding an extent of country and doing an amount of damage hardly equalled in any one season, since the settlement of the country. To explain the cause of these tremendous floods, or to predict the future consequences upon the same country are matters that can hardly be reached by our philosophy. One fact is established, viz: that the annual fall of rain, taking the country at large, is very nearly equal, so that a considerable period must elapse without an equivalent of rain, or that some other section of the globe must suffer for the excess that has been showered upon us in so brief a period.

A very small amount of rain will suffice for the growing season, after an ordinary spring, provided it be favorably distributed at the proper periods, and the husbandman may do much to economise and make a small quantity suffice if he will but maintain on the surface of his fields the proper mechanical condition of the soil, by repeated working with the cultivator.

COLLODION IN HORTICULTURE.

We live in the midst of an atmosphere of wonders. It is but a short time ago that the wonderful discovery was made that to the delicate fibre of cotton could, by a simple chemical process, be imparted an explosive power equal to gun powder. Soon after that an ingenious druggist discovered that the same gun cotton could be used to cicatrice wounds and when dissolved in ether it is called collodion, and is very useful to the gardner in aid of multiplication of plants.

Collodion is one of the most drying of varnishes—adhesive, impenetrable to air and moisture. In propagating plants by cuttings, this substance is found extremely useful as an application to the cutting in preventing the absorption of moisture from the soil, and thus causing the cutting to take root with more ease. It is also useful to apply to trees where limbs have been cut off, also to grape vines, that from improper pruning, out of season, are liable to bleed. In a few seconds it becomes dry and effectually closing the pores of the wood and stopping all further escape of the juices. In grafting, it may also be used to advantage.

Collodion is also useful to the gardener, and others who are liable to cuts, and wounds—a slight application to a cut, or the flesh where the skin has been accidentally removed, will immediately dry, forming a tough cuticle or plaster, excluding the air and aiding materially the speedy healing of the wound. The article has now become a regular commodity in the list found in the drug stores.

TURNIPS.

Ordinarily, with our western farmers, the extensive culture of turnips may not be advisable, when Indian corn is so easily grown, and which is so much more nutritious, and so easily stored and fed out to all kinds of farm stock, but an acre or so may be grown upon almost every farm, to advantage. They not only serve as an excellent vegetable for the use of the family, but they are valuable for milk cows, ewes and other farm stock, during winter, and tend greatly to promote their health, as well as increasing the flow of milk. But on many farms the present season, the corn crop has been greatly injured, if not entirely cut off by excessive rains and floods in May and June; much of the land thus denuded of the staple crop, may be sown to turnips to great advantage the present season, affording a substitute in some instances for corn, and clearing the land of an immense crop of weeds that would otherwise follow. The ground should be plowed immediately, in order to kill the weeds, and the operation repeated just before sowing. As soon after the tenth of the present month as the ground can be prepared and a favorable season occurs, the seed may be sown, but fifteen or twenty days later will answer, and with a favorable fall will insure a good crop. We prefer to drill in the seeds, and for that purpose have a machine; there are various forms of these, costing from $2,50 to $10,00. With the one we use, four acres may easily be drilled in a day. If it is intended to work them with a horse and cultivator, the rows should be sufficiently wide for this purpose; but twelve inches apart will admit of a man going between them with a hoe, and one good dressing in this way, with proper thinning, will frequently more than double the product. There are many varieties of the turnip grown in England and in the northern parts of our country, where the climate is better adapted to root crops generally. But with us the common flat, white or purple top Dutch variety is best, because it is earliest and will mature when some of the more nutritious kinds would not. There is an abundant supply of turnip seed this season, and every farmer would do well to sow some.

A Leviathan Farm.

A new paper recently started in New York, called the *Movement*, states that some men of wealth in New York, Buffalo, and Chicago have it in contemplation to establish, somewhere in the west a Leviathan Farm, of from 100,000 to 200,000 acres. Their object is to do for agriculture, by the use of combined wealth and the power of machinery, what has been done in the past half century, by the railroad and factory to supercede the old stage coach and the spinning wheel. They will organize the vast tract into two rivalized establishments, with a military organization of labor, gigantic machinery, to plow, plant, reap, harvest, and raise vast herds of horses, sheep and cattle of the most select stock, and the cultivation of fruits and grains upon a grand scale. The organization will justly combine the interests of capital and labor and by its colossal economies, and its scientific appliances of creative, industrial power, and its just system of distribution, it will attempt to give to the world the examples of a true Republic, an Industrial Commonwealth, where poverty, duplicity, robbery, and crime are unknown. The next number of the *Movement* will contain the plan in full. Men of wealth and genius are especially invited to examine it."

CLEANING GRAIN FOR MARKET,

The practice that prevails in many parts of the West, of sending grain to market imperfectly cleaned, is bad economy, for the farmer, to say the least of it. The loss that results to the farmers of the West, from this cause, amounts to thousands of dollars annually. A crop of wheat thoroughly cleaned from the chaff, foul seeds and other trash, will sell from five to fifteen per cent higher than the grain that reaches market in the condition that much of it does from the hands of slovenly farmers. There are many things that a farmer cannot afford to do if he only knew what was best for his interest. Sending grain to market imperfectly cleaned is one of the things that no farmer, whether rich or poor, can do, without a decided loss. The manner in which grain is cleaned is a matter that attracts the attention of the miller, in purchasing grain, as much as the quality in any other respect, and he demands a deduction accordingly. All grain that is now received at the flouring mills is cleaned over in order to produce the best possible quality of flour, and that which contains the greatest quantity of foreign matter is subject to the heaviest loss, and the purchaser always avails himself of the argument afforded by a badly cleaned lot of wheat, in order to secure the greatest deduction from the standard of a well cleaned article of an equal quality in other respects. We lately visited several of the "Elevators," at Bufialo, N. Y., and examined the quality of the different lots of grain handled by these great engines. We enquired what was the difference in price of the various lots examined, and were struck with the great diversity here demanded. Wheat thoroughly cleaned from all foul and foreign matters, is not only better in itself, and brings a price much more than corresponding to the difference in weight between a foul and a well cleaned article; but the badly cleaned wheat is liable to injury from dampness and mould, arising from the foreign matters mixed with it. It was said that the wheat that came from the Chicago market was particularly liable to this objection. Two lots, in every other respect of equal quality, the one well cleaned, and the other containing oats, barley and dirt of various kinds, adding, perhaps, not two per cent to the weight, was sold at a discount from the other lot, equal to twelve per cent. Another lot cleaned in like manner was passed as unmerchantable having become musty, which, originally, was equal in quality to some of the best lots, and would have brought the market price had it at first been well cleaned.

A little care in running the grain through the mill will obviate this difficulty, and in some instances we have no doubt but that it would pay well to run the grain through a second time, and render it perfectly clean. A reputation is worth something in market, in the sale of almost any commodity, and this may be true in the case of well cleaned grain. Besides, a good conscience is sure to contribute to healthy digestion and long life.

A DAY at the ASTOR HOUSE FARM.

One of the institutions of New York is the Astor House farm, located in Union, N. J. about seven miles from that city. It is owned by Mr. Develin, the son-in-law of Gen. Stetson, who generously fitted up his farm for the exclusive use of the Astor House, conducted by his father-in law, convinced that it would pay him well; and the result has more than realized his expectations. The ride to it over the Hoboken ferry, is one of the finest in all this region. The scenery is exquisite—the road is in excellent order. New Jersey is one of the best farming States in the Union, and the evidence of thrift and high culture meets one on all sides.

Once on the farm the cattle attract the attention of the visitor. The stable is on a novel plan and ingeniously fitted for the purpose of its erection. Fifty cows stand before you all in a row, and the reputed taste of the host of the Astor House is not lessend by the appearance of these cattle. The stables are as sweet and clean as a dairy. These cows are fed on the sweetest hay and the best of meal and are groomed daily as a horse would be, and roam in clover fields all the summer. They are fed on cotton meal. By the invention of a gentleman whose name I do not reccollect, the fuse has been taken from the cotton seed and the meal makes the best food for cows, better than linseed, corn meal or any other. The cotton meal goes to milk first, then to meat, and lastly to fat. From these cows four hundred quarts of milk a day are carried into the Astor House for the use of the guests. The cows are milked at 3 o'clock each morning, and the milk reaches the Astor in the cool of the day, and from the milk taken at night, twenty-five quarts of pure cream are sent in also for the daily use of the house. An ice house of a novel arrangement, with ventillators and a cooling chamber, receives the milk and vegetables. Milk can be kept sweet a week, and fruit for a long time. In these days of swill milk and terror, such a dairy as meets the eye here is a welcome sight.

Next we come to the piggery. An immense building, cruciform in shape, with a cupola like an academy, indicates where the pork of

the Astor House is raised. Here six hundred hogs are annually raised for the slaughter. Each hog has his parlor, his yard and sleeping apartment to himself, while being fed and got ready for the market. Attached to the house are seven acres of land, dotted with small houses, into which the pigs may run and be safe, and here the broods luxuriate on hill and dale, heat and shade. A railroad car runs from the house where the food is cooked to the pens, and the food is trundled in on the track, and by a simple contrivance, all the hogs are compelled to wait till the food is served before they can help themselves. The swill from the Astor House is taken away before daylight each day, so no one is annoyed. A cart perfectly tight stands in the yard of the Astor House all day and receives all that is placed in it. Another, its fellow complete, is driven in at early morn, all sweet and clean, and the full one is taken out and the empty one left in its place. This swill is taken to the farm, and in an immense vat is cooked for the swine. In the process all the fat and grease that rises is taken off. Gen. Stetson has kept the Astor House twenty-one years next July. The swill from the house has been sold and removed for the sum of $500 per year. The farm has made this discovery, that the grease that rises from the food of the hogs, independent of the food, is worth annually the sum of $3,600. Pigs noble and plebeian are here; pigs English, pigs Chinese and pigs Siamese. A smoke house completes the porkery of the farm. A man is employed to take care of this department—he does nothing else, and a house and grounds are given to him.

Next we advance to the poultry house—probably the most perfect in the land. The building is 240 feet long, and is of two stories. The "roost" is divided into four apartments; the roost frames are sassafras, to keep out vermin; apartments for laying, setting, &c., are in great perfection. A perfect system is adopted: each setting hen is removed, and her nest cleansed each day, and at regular intervals she is compelled to take an airing. About 2000 eggs per day are ready for this house, and, with the system of warming the building, the hens lay in the dead of winter, and fresh-laid eggs can be had at one season of the year as well as another. Attached to the hen house are seven acres of land, carefully inclosed, where the chickens and their associates have the "liberty of the yard." Each hen with a brood has a house in the field exclusively her own, and each day the house is removed, as that removal makes the rats and other vermin think it a trap, and so keep out of it. Here 30,000 poultry are raised a year. The chicken department is under the charge of a gentleman, trained in England under Lord Northrup, and the fifteen years experience in the old country is well used here. The lofty hall over the roost is devoted to the final feeding of capons for the table. Each of the 2000 fat capons, that are to be honored with a revolution on the spit of the Astor House kitchen, have here their final preparation on the "corn of the land." Here, also, is to be placed an incubator, of the newest model, where by the means of hot water, chickens are cheated into life, and after they come out, they are clapped into another machine, called "the mother," where, for the second time they are awfully deceived with the idea that they are under the motherly care of an old hen. Six hundred eggs can be hatched at one time, and the total of chickens that will probably see life under this novel method, is not far from 12000 per year.

The turkey yard comes next, from which 300 turkeys per year come forth. And then an immense tract—five acres—watered by a running brook, eminently suggestive of trout, is called "Duckville," in which the ducks and geese in countless numbers, are fattened for the table. Besides there are acres of strawberries whice are picked at the rate of one cent per basket; and a good picker can realize one dollar per day. All the luxuries of the hotbeds, all the flowers, fine herbs, celery, grapes, pears and apples, that may be needed for the table—with acres of potatoes, corn, beets, and all the roots used for food, grow on the farm. Hay in vast quantities, and beef, fattenning in the stalls, meet the eye.

At the head of this model farm stands Major Fornet, who was Kossuth's Chief Engineer; and the condition of the farm indicates that he is as able in the ploughed as in the "tented field." Sixteen men, four horses, two stout mules, an overseer of the poultry, geese, hogs, each man with a house to reside in, a general overseer under Major Fornet, complete the working force of the farm.

It is the centre of general attraction. The setting down among the staid old farmers of Jersey, who for centuries have done their farming after the good old fashion, of such a system of agriculture as the Astor House farm displays, and with such tremendous results the idea of feeding animals, keeping them warm and clean, not only having good light barns pens and houses, but actually warming them with coal, so as to be really comfortable for a man, produced at first ridicule, then surprise and astonishment, and then imitation. The farm is visited by all persons for miles around; and when Major Fornet shall have had time to perfect his plans, arrange the strawberry bed of acres of ground, bring out his fruit, set up his bone mills, and complete fully his various houses and villages in which the tribes under his charge reside and grow fat, it will be one of the greatest attractions to all who love successful farming, system and beauty in arrangement, and splendid scenery; and as the ride towards it is one of the best in all this region, will attract great attention: and the eminent success of the experiment, will probably induce many other hotel keepers to attach a farm to their palace hotels. It costs not far from ten thousand dollars per year to work this farm. The fruits of the farm, at the lowest estimate, is not less than fifty thousand dollars per year, besides the attraction that must attend a hotel that in the centre of such a city as New York can guaranty to its guest such milk, cream, eggs, poultry, pork, and vegetables that grow under the eye of the host, and are watched as carefully as the ledger or the cash in the safe.—*Boston Journal.*

From Appleton's New American Cyclopedia.

AGRICULTURAL SCHOOLS.

The first agricultural school proposed in the United States is that being erected at Ovid, Seneca County, by the Gaverment of New York, aided by private effort. As early as the year 1837, the public mind was aroused to the importance of giving more attention to the subject of agricultural education, and a committee was constituted, consisting of Judge Buel, Joab Centre, Dr. Beekman, and Anthony Van Bergen, whose duty it was to collect subscriptions, select a site, and propose a plan of operations. The committee met with such success in obtaining subscriptions, that they actually selected a place at the mouth of Kinderhook Creek, on the banks of the Hudson. But after all, the matter was suffered to drop. Still the gentlemen of the committee did not abandon the agitation, and in 1844 Dr. Beekman, being then President of the N. Y. State Agricultural Society, chose for the topic of his official address, the importance of agricultural education. Hereupon John Delafield, Esq., drew up a plan of organization which was adopted, and a charter was obtained from the State Legislature. Mr. Delafield proposed to render the education not only thorough in theory but in practice, and to place it a ta rate within the ability of the farmer in quite moderate circumstances. The course was intended to include the fundamental laws which underlie the science and art of husbandry as well as the adjunct sciences. The pupils were to be regularly employed in the field for a portion of the time, and be remunerated for their labor. This benevolent design was, however, frustrated by Mr. Delafield's death in 1853. B. P. Johnston, Esq., and the members of the executive department of the Society, next urged the plan upon the notice of the public, and made application to the Legislature for aid. In 1856 a sum of $40,000 was appropriated by the Legislature with the proviso that a like sum should be raised by private subscription. This was speedily accomplished, and the commissioners accepted an offer from citizens near the town of Ovid; a tract of some four hundred acres was purchased. The tract is in full view of Seneca Lake, and so far as the advantage of scenery and soil are concerned, the selection is excellent. The buildings are intended for the accommodation of a large number of pupils, and it is the purpose of the trustees to follow the best European models in respect to the internal arrangement and course of instruction. The services of Dr. Asa Fitch, the eminent entomologist, have been secured as professor in his department.

The Agricultural College of the State of Michigan has been established in obedience to a provision of the revised constitution of the State, adopted August 15, 1850. To carry out this provision an act was passed at the session of 1855, providing for the purchase of land and the endowment and management of the institution. The course of instruction is to embrace all the branches necessary for a complete agricultural education; and on Febuary 16, 1857, an amended act was passed appropriating $55,000, or the proceeds of the sale of 22 sections of the salt spring lands, originally given to the State of Michigan by the General Goverment. The sum of $40,000 for the ensuing two years was likewise appropriated to the object of the institution. A tract of some 676 acres was purchased by the trustees at three and a half miles east from Lansing, the State capitol. A building capable of accomodating 80 pupils was erected there, and on May 13, 1857, in the presence of the Governor, the State dignitaries, and an immense concourse of citizens, it was formally dedicated. It opened with 61 pupils. The faculty consists of Joseph R. Williams, President, and director of the farm; Calvin Tracy, mathematics; L. R. Fisk, chemistry; H. Goodby, physiology and entomology; D. P. Mayhew, natural science; Robert D. Weeks, English literature and farm economy; John C. Holmes, horticulture. The young State of Michigan has thus the honor of putting into actual operation the first State Agricultural College in America, which derives its entire support from Goverment.

There is at Cleveland, Ohio, an agricultural college, which although it has in its faculty names of gentlemen highly distinguished in their profession, and is in a State noted for its magnificent growth and present opulence, finds but limited support. The original projectors of the Ohio Agricultural College were Prof. James Dascomb, Prof. James H. Fairchild, and the Hon. Norton S. Townshend. To their number have since then been added Prof. Samuel St. John, and Prof. Brainard. The first winter's session consisted of a course of lectures delivered at Oberlin, Ohio; but it was thought advisable to remove to Cleveland, where spacious and appropriate rooms had been offered them, and since that time the school has been continued there. Four daily lectures are given, commencing on the first Monday of December, and continuing for 12 consecutive weeks. The branches taught embrace whatever pertains to animals, vegetables, land, or labor. The charge for the entire course of instruction is $40, exclusive of board.

For some 10 years past an annual course of 30 lectures on the chemistry and general principles of agriculture has been given at Yale College. It was established by the late Prof. John P. Norton, and subsequently continued by Professors J. A. Porter and Samuel W. Johnson. Professor Norton at one time attempted to give especial course of agricultural laboratory practice, but this not meeting with sufficient support has been discontinued. Prof. S. W. Johnson has passed some time in Europe in the laboratories of Liebig, Muller and others, and has already done good service in the advancement of the science of agricultural chemistry in this country. There are likewise professorships of agriculture in colleges in Georgia and Virginia. At West Cornwall, Conn., Dr. T. S. Gould has had in operation, since 1845, a school for boys, in which agricultural instruction is introduced. The institution is entitled the "Cream Hill Agricultural School," and it is said to prove the possibility and profit of mingling agricultural studies with those of the usual education. Each pupil cultivates a portion of

land, and small prizes are awarded for the best success attained in their separate plots. They are also encouraged to join in the general operations of the farm, care of stock, etc.

There is established at College Hill, near Cincinnati, O., an institution termed the Farmer's College, at which a practical course of agricultural study is pursued in connection with the branches of an ordinary English and classical education. This college is a successor to Cary's academy, and the large model farm attached to it is under the charge of Mr. Freeman Cary. The students have constant practice on the farm. The institution is supported by a fund of $100,000 raised by the sale of scholarships. The Rev. A. Matoon is the President. The State of Ohio is about to make an effort to introduce a modification of the system pursued at the agricultural colony at Mettray, France, which has for its chief object the reformation of vagrant boys. A tract of 1,170 acres has been purchased near Lancaster, Fairfield County, Ohio, and the Commissioners, Messrs. C. Reemelin, John A. Foot, and James D. Ladd, are making the necessary preliminary arrangements. There is also an experimental farm belonging to the State of Massachusetts, at Westboro' which has been purchased with a view to being worked by the vagrant boys in the adjoining State Reform, school, and thus giving them a knowledge of agriculture. The agricultural portion of the project has recently been placed under the control of the State board of agriculture. An estate valued at $350,000 was bequeathed to Harvard College in 1842, by Mr. Benjamin Bussey, of Roxbury, Mass., (the legacy to take effect after the decease of certain relatives), one half of which, including his mansion and farm was to be appropriated to the establishment of an agricultural school under the direction of the college.

The Farmer's High School of Pennsylvania was founded by the Agricultural Society of that State. By its annual exhibitions up to the fall of 1854, the Society had accumulated a fund of $10,000, which suggested to its intelligent and indefatigable President, Judge Frederick Watts, of Carlisle, the idea of establishing an agricultural school. The Legislature passed an act to incorporate the Farmer's High School, and a board of trustees, consisting of nine members, with the Governor, Secretary of the Commonwealth, and the President of the State Society as *ex-oficio* members, was duly organized. Gen. James Irvin proposed to give the school 200 acres of fine land, worth $60 per acre with the privilege of purchasing 200 acres at the same price within five yeats; to which the people of Centre County added a subscription of $10,000. Mr. Elliot Cresson, of Philadephia, by his will left to the school a legacy of $5,000, and with these resources the work of preparing the land, planting hedges and orchards, and erecting buildings, was commenced. At the last session of the Legislature a law was passed appropriating $50,000 to the schoool, half of which sum being dependent upon the raising of a like sum by individual contribution. This being accomplished, the institution will be in possession of $100,000, in addition to the farm presented by Gen. Irvin. During the year 1856, a neat house and a large barn were erected, orchards and nurseries were planted, and the grounds and "campus" laid out—all under the supervision of Wm. G. Waring.

[For the Valley Farmer.]

RED CLOVER.

Eds. Valley Farmer:—I believe it is considered by almost every one that Red Clover is the best and quickest renovator of the soil of all the grasses that are grown in the western States, and, at the same, the most profitable grass for pasture. But I find that there is a great prejudice on the part of the farmers of this State against raising it, on account of the difficulty of getting a stand of clover when they sow it. Now the object of this article is to state how it may be raised with success. The successive droughts of the last few years have demonstrated that it is very difficult to get a stand of clover when sown with oats or with wheat, and the same holds good with Timothy. The surest way that I have found to get a stand of clover or timothy, is to sow the grass seed by itself. If the field was planted to corn the year previous, all the preparation necessary, is to run the harrow or cultivator over it to level and loosen the surface, before sowing the seed. Time of sowing, March or April. If the land is a stubble field, burn the stubble, sow the seed and harrow in, or if the weather be rainy there is no need of harrowing. If weeds should come up with the clover, let them grow, they will do no harm, but will answer as a protection during the freezing of the next winter.

Respectfully, Jos. H. Stone.

Columbus, Mo., July 1858.

(Written for the Valley Farmer.)

Time and Method of Sowing Timothy Seed.

Messrs Editors.—I see in your June number of the Valley Farmer the time stated at which grass and wheat should be cut; and as you hit the time so well, I will give your readers, by your permission, the time and the best mode of sowing Timothy seed.

In the first place, sow the ground that you want to put in meadow in the spring, in oats. In two weeks after harvest break up the stubble from 4 to 8 inches deep; let it lay till the first of September, then turn it over with a small plow, say 3 inches deep; then harrow the ground over with a good iron-tooth harrow, then turn and harrow it across. Have a good steady team and, driver and a hand to walk right behind the harrow and sow the seed. Then brush with a light brush. If your ground should still be cloddy, it will be a great advantage to roll it to brake the clods. Sow Turnip seed at the same time, if you are fond of good sweet turnips.

I have sowed five different seasons in this way and have never failed yet.

Yours Respectfully,

John Oliphant.

Globe, Mo.

Stock Raising Department.

IN-AND-IN BREEDING.

There is no subject that demands greater knowledge or more skill on the part of the husbandman, than stock breeding and feeding.—Notwithstanding much has been done in the way of improving the various kinds of domestic animals, much still remains to be done before satisfactory results shall be attained.—Size, form, hardiness, quick maturity, tendency to fatten quickly, quality of flesh, hide, milking qualities, aptitude to labor, disposition—the best breed or blood, as the reader would say. These are topics relating to points of essential importance to every breeder, grazier and dairyman.

The farmer who breeds cattle for the shambles, desires that kind that will make the greatest amount, and the best quality of beef in the shortest time, from the feed consumed; if for the dairy, the kind that will give the greatest quantity of milk, if to be sold by measure; the greatest amount of cream, if butter be the object, and of casein, if cheese be wanted. Reference is also had by others to the capacity to work in the yoke. The kind of cattle best for the farmer to select, will depend on what he wants to do with them. For, so to speak, they are machines kept by farmers to change vegetables of various kinds into beef, milk, butter cheese, &c., and the breed that will produce the greatest amount of the best beef, from a given amount of feed and in the shortest time, will be deemed the best machine for changing grass into beef and fertilizers; the latter being an important item in good farming.

Successful efforts have been made within one hundred and fifty years, in improving cattle not less than other domestic animals. Much attention is now directed to the further improvements of the various breeds of live stock.—The mode of carrying these to their highest degree of perfection, necessarily involves the much and oft-mooted question of "in-and-in breeding." It is proposed to furnish further testimony on this subject from the best and most reliable sources—testimony furnished by breeders of stock, derived from both experience and observation.

George Culley, in his "Observations on Live Stock," says that

"The great obstacle to the *improvement* of domestic animals seems to have arisen from a common and prevailing idea among breeders, that no bull should be used in the same stock more than three years, and no tup more than two; because, (say they,) if used longer, the breed will be *too near akin*, and the produce will be *tender*, *diminutive* and liable to *disorders*; some have imbibed the prejudices so far as to think it *irreligious*, and if by chance they were in possession of the best breed in the Island, would by no means put a male and female together that had had the same sire, or were out of the same dam.

But fortunately for the public, there have been men in different lines of breeding, whose enlarged minds were not to be bound by vulgar prejudice or long established modes, and who have proved by many years experience, that such notions are without any foundation.

Mr. Bakewell has not had a cross for upwards of twenty years. His best stock has been bred by the nearest affinities, yet they have not decreased in size, neither are they less hardy, nor more liable to disorders, but, on the contrary, have kept in a progressive state of improvement.

This mode has also been frequently practiced in breeding the best dogs and game cocks. A certain gentleman who produced the best pointers in the north of England for many years, never bred from any other than his own; because, said he, I can find no better to cross them with. And I am informed, from good authority, that a breeder of game cocks, who was very successful, would never allow his breed to be contaminated by crossing with others; and to this precaution, he attributed all his superiority."

This confirms the experience of Col. Jacques, given in a former article on this subject, especially that narrated in the last.

Culley goes on to say:

"One of the most conclusive arguments that crossing with different stock is not necessary to secure size, hardiness, &c., is the breed of wild cattle in Chillingham Park, in the county of Northumberland. It is well known these cattle have been confined in this park for several hundred years without any intermixture, and are perhaps the *purest breed* of cattle in the kingdom. From their situation and uncontrolled state, they must indisputably have bred from the nearest affinities in every possible degree; yet we find these cattle exceedingly hardy, healthy and well formed, and their size as well as their color, and many other particulars and peculiarities, the same as they were 500 years ago.

"From these instances, it appears there can be *no danger* in breeding by the nearest affinities, provided they are possessed in a superior degree of the qualities we wish to acquire; but if not possessed of these, then we ought to procure such of the same kind as have, in the most eminent degree, the valuable properties we think our own deficient in. It is certainly from the *best males and females*, that *best breeds* can be obtained or preserved; to breed in this manner is undoubtedly right, so long as *better males* can be met with, not only among our

neighbors, but also among the most *improved breeds* in any part of the Island, or from any part of the world, provided the expense does not exceed the proposed advantage. And when you can no longer, at home or abroad, find *better males* than your own, then by all means breed from them; whether horses, cattle, sheep or other animals, for the same rule holds good through every species of domestic animals.—But upon no account, attempt to breed or cross from *worse* than your own, for that would be acting in contradiction to common sense, experience, and that well established rule, 'That best can get best,' or, which is a particular case of a more general rule, viz: that 'Like begets like.'

"On this simple axiom the whole mystery of improving stock depends, and like many other valuable truths, has been neglected, most probably for its simplicity, and other modes pursued as whim or fancy directed, without either reason or experiment to support or give the least color of plausibility to the practice."

Thus has the writer quoted at length the admirable and philosophic remarks of Geo. Culley, an English author of celebrity, both as a writer and stock breeder. Arthur Young describes him as "a man of the most extensive practice, and the deepest knowledge of his art."—COLUMELLA *in Country Gentleman.*

[Written for the Valley Farmer.]

THE HORSE.

In order to insure the health and comfort of our horses, the arrangement of our stables demands particular care.

This building should be well protected from the stormy winds of winter, but at the same time should be well ventilated. They should be provided with doors or openings sufficient to let the air circulate freely, but a current of air should not be allowed to blow upon the horses in cold weather.

A dry location is important in selecting a place for building. Stables ought to be cleaned out every morning and well provided with litter. Saw dust (if convenient,) makes excellent bedding.

Plank floors in stables are objectionable. It is natural for a horse to stand on the ground. He *rests* better, especially after a hard days travel. Some argue that grain or hay should never be placed immediately above the horses, for the reason that a noxious gas rises from the manure and penetrating the hay injures the horses health.

This may be so; but as a general thing it would be a saving, and a convenience, in most buildings, to have a mow over the horses. A tight floor to the loft overhead would certainly remedy this in some degree, and with attention in other respects, the health of the horse certainly need not be injured. The fact, however, is worthy of consideration. "An ounce of preventive is worth a pound of cure." Many of the worst diseases to which the horse is liable, may be traced to improper stable management, hence the importance of a strict observance of the laws of health in this regard. It is not desirable that a stable be kept uncommonly warm, because in the first place, by making it very tight, a free circulation of pure air is retarded, and second, horses are apt to take cold if brought out of very close stables in bad weather. The doors for ventilation should always be thrown open a sufficient time each day to thoroughly purify the air. The horse throws off his coat twice a year. In spring, after he begins to shed, the hair comes off very rapidly, and the new coat grows equally fast, but in the fall, the process is more gradual.—In warm climates the hair is short and fine, but in the cold regions of the north, it is rough and shaggy. The horses of Arabia are noted for the silky texture of their covering; hence we learn that in order to produce an Arabian coat, the animal must be kept warm during the time of shedding. A warm stable, vigorous exercise, so as to keep up the animal heat when out of doors, and good blanketing, will be more effectual in producing a smooth, glossy coat at this time, than all the grooming and precautions which may take place at a later period.—This may be done without the least injury to the animal, if properly cared for; but the object is simply to please the eye, and for the farmer as a general thing, this will hardly be deemed advisable. The arrangement of a stable for convenience in feeding, is an important object.—General directions cannot be given in this respect, as the plan would depend entirely upon the size of the building, the place, and the number of horses to be accommodated. A moderately low trough is better in many respects than a high one. Horses stand more naturally and easy, it is more convenient also in putting in the feed. If however, a horse has been accustomed to eat out of a high trough and be tied with his head high, it will have much to do with making him carry it so in general. Many horses have a habit of pushing their nose into the bottom of the trough if eating out feed, and occasionally giving it a shove sufficiently hard to empty the contents upon the ground.—To remedy this, we want a large trough with

strips nailed across it twelve or fifteen inches apart, and the object is secured. Hickory strips are best for this purpose. Also nail some on the edge of the trough lengthwise, to prevent the horses from gnawing at it. Never construct a stable with a manger or box to feed hay from. This is quite common (and may do) in livery stables, but is not good economy for the farmer. A horse may breathe and slobber over a box full of hay until he spoils it entirely, and will not eat it afterwards at all. Every stable should be provided with good racks made in the following way:

The sticks or bars of the rack should be perpendicular and the slanting part (which holds the hay,) should lean *from* the horses. There is then no danger of their getting the seed in their eyes or pulling it all over the head and mane. It should also be placed so that the forward parts will fall about a foot behind the trough, thus saving the seed and loose hay on a floor immediately behind. This plan supposes the stable to be in connection with a barn, cutting room, or other space just before the horses.

Stalls should be at least six feet wide for the comfort of the animals, and when tied, it should be always done with a head halter.—The practice of having ropes and chains to fasten with, ought to be discarded entirely. Horses ought to be well rubbed and curried every evening. If they have been at work the dirt ought to be carefully cleaned from their legs.—This prevents swelling of the limbs, and attention in this respect provides against scratches.

H.

(For the Valley Farmer.)

WHICH IS THE BEST BREED OF HOGS?

The vast amount of pork sold and consumed in the west, together with the fact that the best of hogs, as well as good care, are necessary to insure even a fair profit, constitutes this one of the most important questions that can engage the attention of western farmers. Important, because if one hog, with five dollars worth of corn, will produce six dollars in meat, and another with the same amount of corn, will produce seven dollars worth of meat, this will make a difference of 20 per cent—enough to break every manufacturing company in the United States.

The hog is the farmer's machine to manufacture corn and grass into pork. How important then that he select a good machine. Instead of the difference indicated above, it will oftener be found as high as 100 per cent in favor of some hogs. I have now two hogs of different breeds, both about the same age. Each I think has eaten about a barrel of corn. The estimated weight of one is 50 lbs., of the other 250 lbs. The least one is the best out of fifteen of his breed and age, and the other the best of two.

Here then, is a difference of 40 per cent in favor of one breed of hogs. Allowing all that the most inveterate old fogy could claim in favor of the least hog, there would still be an enormous difference in favor of the best hog, too intolerable to be borne by any farmer.

How shall we find out which is the best breed? Simply by raising them together, and in the absence of well conducted experiments, let those who have tried different breeds report their experience, then every farmer can judge which will suit him best. This question can be much easier settled than the horse and cattle question, for in determining which is the best breed of horses or cattle there are so many points brought to bear that the best judges are often left in doubt; but the hog, on the contrary, has but one purpose to fulfill, and that is to make the most pork with the least feed. For myself, after trying to obtain the best hogs in my neighborhood, and not being satisfied, in the spring of '55 I obtained some thorough bred Suffolks, the most popular breed of hogs, I believe, in the United States. I have bred them ever since, avoiding breeding in-and-in. I must say, however, I have been somewhat disappointed in my expectations. Though a century ahead of the landshark breed, they fall far below *my* ideal of a perfect hog. Not discouraged I obtained last year from Pennsylvania, two pair of Chester County Whites. These have given me, thus far, entire satisfaction. To my mind they are not only perfect models of hogs, but they possess that vigor of constitution, and that rapidity of growth, so essential to the western hog grower. They will fatten readily at *any age*, and at 18 months old, will weigh, with proper care, from 500 to 600 lbs. I have before me the weight of three hogs, slaughtered last Christmas day, which weighed as follows: No. 1. 16 months and 9 days old, 696 1-2 lbs.; No. 2. 16 months and 7 days, 648 lbs.; No. 3. 17 months and one day, 633 lbs., aggregate, 1977 1-2 lbs. I have no hesitancy in saying that at the same age they will weigh as much again as any other breed, and yet they are very far from being a coarse hog. A coarse hog is, to me, like any other coarse animal, unfit to breed. They are short legged, very broad on the back.

H. L. Brown.

Fayette, July, 1858.

[For the Valley Farmer.]

SHEEP FOR WOOL AND MUTTON.

The most essential point in raising Sheep, is good pasturage and good water; both are necessary to their health and comfort. Good grass is the best feed for Sheep winter or summer, especially stock Sheep. Next to grass, is good fodder with a little corn. Ground or crushed corn is fine feed to fatten them for market. Hay is also good feed, but oats I consider very poor feed from several years experience with it. To promote the health of Sheep they should be changed frequently from one pasture to another. They should also be salted regularly, with occasionally a little sulphur put in it. I am also an advocate for belling them, say four or five bells to the flock, as I believe it will often frighten away dogs, and it is very pleasant to hear them as they are feeding.—The Ewes should be separated from the Bucks by the middle of July and kept from them until about the 10th of November, which will make the lambs come in April, as the Ewe goes 140 days with her young. When the lambs are suffered to come in winter, the most of them are lost and the rest are stunted with cold. If they are made to come in April, they grow off finely and make large, fine, healthy Sheep, and few are lost. I consider 50 Ewes enough for one Buck. Nor should Bucks or Ewes be bred until one year old, as their lambs are weakly and small, and the parents are more or less injured. And here I would say a word about selecting Bucks. It is much better if you wish to succeed in raising fine Sheep, to select a fine formed, large animal, who has a fine coat of wool. I would much prefer a No. 1 animal, say at $75, than take an indifferent one at $20.

It is generally thought that a sick Sheep never recovers; so I thought as long as I physicked them according to directions of approved writers. After killing all I ever physicked (and they not a few,) I concluded to change my tactics, since that, I have lost none. My plan is, whenever I find a sick Sheep, to take it to a shelter, put it on a good straw bed, feed and water regularly, and they get well. Some that I have saved, were so bad as to be unable to hold up their heads when found. I am convinced from experience and observation that the Cotswold Sheep is the best wool and mutton Sheep for this country, and next to it stands the South Down. I prefer the Cotswold to the South Down on account of their superior size and the greater quantity of their wool. They are much more profitable for mutton, or to cross on the common Sheep of our country, as they give their Lambs so much more size and increase their fleece so much more. They are a much more stylish, attractive Sheep, for proof of which they have been breeding both kinds in Kentucky for many years, and the Cotswold have always carried off the palm.—The Leicester is a superior Sheep, but not being so large, have disappeared. The Oxfordshire are a course, badly formed, indifferent Sheep, that never had anything but size to recommend them to the public. Their reign was a very short one indeed. Some have contended that the South Down Sheep was a hardier Sheep than the Cotswold, but the winter of 1855–6 proved that a mistake, as I heard of more dying in Kentucky, than I did of the Cotswolds.—They have more twins than the Cotswold. The Merinoe Sheep is too small and too hard to fatten for a mutton Sheep. No one who knows good mutton would compare them to a Cotswold or South Down. I am confident that there is more money to be made on the Cotswold Sheep merely for wool. A neighbor of mine who has the finest French Merinoes I have ever seen, sent his wool to the same house in St. Louis, that I did, and was only offered two cents per pound more for his than they sold my Cotswold wool for. And shear them annually and wash the fleece, and I can furnish Sheep that will turn out more pounds. There is the great secret, they leave the wool on their backs for two and three years and pass it off for one years growth. They are the great fleeces that we hear of so much. No wonder that farmers buy those Sheep, and never shear such fleeces off of them. I consider twelve pounds a large fleece, and ten over an average one. Some are complaining of being imposed upon by unprincipled men, but none need be, as a thorough bred Cotswold can easily be known by his fine carriage, his long silky fleece that lies in ringlets of wavy wool. The South Down has a black or brown face, belly and legs, with less style than the Cotswold, yet, are a beautifull round, compact bodied Sheep.

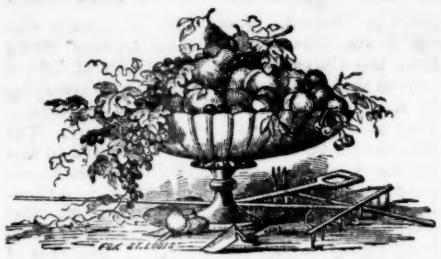
G. M. Brown.

Saline Co., Mo.

RACES vs. BREEDS.

There is a difference between the words races and breeds, as applied to domestic animals. A race includes the descendants of a family,—whose characteristics change not essentially in kind, as the African race, or the negroes, the Caucasian race or Europeans—the Devons and others of the cattle family. The word breed seems more appropriately applied to cultivated varieties of races, which are temporarily fixed and improved by careful and close breeding, sometimes denominated bred-in-and-in, the only way of seizing, fixing and perpetuating these qualities from generation to generation. For illustration, the Devons represent a race and the Short-horns a breed of cattle. This distinction is important, and should, therefore, be recognized by writers and breeders. The tendency of breeds is to "run out," as the saying is. Not so of races. When a breed runs out, it simply falls back to its primitive race, or races whence it was derived. So it is with cultivated plants and flowers.

The improved Short-horns, the finest cattle in the world to look at while under the care of fancy breeders; but let them fare as do what are popularly called natives, and they soon become coarse and rough creatures. Then they are not as prolific as races. Take 50 Devon heifers, three years old, and the same number and age of Short horns, and the increase of the former over the latter for ten years would be striking.—*Ex.*



Horticultural Department.

STRAWBERRIES, NURSERIES, &c.

There is no fruit grown by the gardener and amateur, that has been more improved by the cultivator in the United States than the strawberry. Many foreign kinds have been introduced, but few of which now hold a conspicuous place among our native varieties. The strawberry is easy of cross fertilization and propagation, and hence many of our gardeners, with a view to produce new and improved kinds, with the necessary requisites for a market fruit, have produced within a few years, many new and valuable varieties. The opinion very generally prevailed a few years ago, and particularly around Cincinnati, the greatest strawberry market in the world, that the pistillate sorts were the most productive, but these require a portion of staminate plants to be grown in company with them to render them fertile, and much more care and attention than ordinary cultivators are willing to bestow. Among the many new and valuable seedlings that have lately been produced, there are a number of varieties bearing perfect blossoms, equal in flavor and superior in point of productiveness to any of the old, pistillate kinds. Wishing to furnish our readers all the information possible, upon the subject of the earliest and most delicious of fruits given to man by a beneficent Creator, we have spared no pains in visiting numerous gardens, and in attending the summer exhibitions of several prominent Horticultural societies in various sections of the country. In Cincinnati we found the leading market kinds were the Washington or Iowa, Hovey's Seedling, Hudson, Longworth's Prolific, and McAvoy's Superior.

Washington is the earliest of the kinds sold in this market. It is what is termed hermaphrodite, or perfect in its blossoms, and serves a good purpose as an impregnator for Hovey's Seedling, Hudson and McAvoy's Superior, which are pistillate kinds; it is remarkably prolific, though the fruit is not of the best quality, being somewhat acid and not high flavored; it is rather tender, and the color too light for a popular fruit, yet its other qualities render it a favorite with the growers in this section.

Hovey's Seedling, as grown by some for this market, is of extraordinary size, and commands a ready sale at the highest prices, though in quality it is inferior to many other kinds. This variety is unstable in its character, producing finely on some soils, while on others it is neither productive nor hardy.

The *Hudson* is the old standard sort, and once a great favorite in the western markets, and but for its firmness and long keeping qualities it would be required to give place to some of the newer and better kinds; it has a profusion of hard, full seeds, and may almost on this account be termed gutty; for this reason we should never recomend it for cultivation for home consumption.

Longworth's Prolific is gaining in popular favor and is highly esteemed by some growers as a beautiful, productive variety; its foliage is strong, fruit large, and in point of quality, though not the best, compares favorably with some of the leading kinds.

McAvoy's Superior, for some cause has not yet occupied a very conspicuous place on the stalls of the market gardens. It is a good, productive variety, handsome in appearance, rather tender, and often imperfect in its development, owing, we think, to some defect in its sexual organs and not readily impregnated.

After spending several days among the Cincinnati gardens we left for Cleveland, intending to make a similar survey there, but circumstances favored our progress eastward and we passed on to Buffalo and Rochester. At Rochester we visited the celebrated nurseries and gardens of Ellwanger & Barry, H. E. Hooker & Co., and other strawberry growers. One fact should be remembered in connection with the cultivation of this excellent fruit, and that is, any variety having an origin in one section, and claiming superior qualities in that section may prove entirely worthless occupying a different soil and climate in another secton. This characteristic is more generally true of some kinds than others. Some will thrive and prove productive in almost any good soil, and under any climate, while others will only prosper and prove valuable in the peculiar kind of soil in which it had its origin.

The principal varieties grown for the Roches-

ter market are, Jenny Lind, Hooker's seedling, Wilson's Albany, Genesee, Scott's seedling and Longworth's Prolific. In the nurseries and the gardens of amateurs many other kinds are grown, including those of foreign origin.

Jenny Lind.—This variety is particularly valuable on account of its being the earliest of any kind known; it ripens several days earlier than the Early Scarlet, prolonging the season several days for this fruit.

Hooker's Seedling was produced by H. E. Hooker, of Rochester, and is one of the best and most productive kinds in cultivation. It is of large size, and in point of flavor equal to Burr's New Pine; the color is quite dark, and for market is sometimes objected to on that account, while with us in the west, light colored kinds are least admired.

Wilson's Albany has proved in every location where we have seen it in cultivation, superior to any of the kinds now grown, whether in the east or the west; for uniform large size we have never seen its superior; the berries continue to ripen for a long time, which is a desirable quality for family use. One singular peculiarity of this fruit is, that while the majority of the specimens are rather conical in form and quite regular, many others will be of cocks-comb shape, and others will unite two, three and sometimes five berries in a single calix. Last summer we ate it on the 20th day of July, and at that late period it was of unusual size. We have met with many cultivators who have tried all the leading kinds in cultivation and who have discarded all others for this.

Genesee.—This variety originated near Rochester, and proves, in some gardens, a valuable sort; it is hardy, very productive, of large size and good quality.

Scott's Seedling is a beautiful, uniform, conical shaped berry, of large size, and bears good crops, but the largest specimens are apt to be hollow and dry.

NEW GRAPES.

We neglected to acknowledge last spring, the receipt of a number of plants of new grapes from our esteemed friend, Frederick Munch, of Marthasville, Mo. They are now all growing finely, and, in a year or two, we shall be able to inform our readers how they succeed near St. Louis. Mr. Munch says in his letter accompanying the plants, "I herewith send plants of 1 Albino, (white and very sweet;) 2 Concord, (large, early, and unsurpassed for the table;) 3 North Carolina Seedling (tolerably large, blue, said to make an excellent wine;) 4. Emily, (large, blue, highly praised;) 5. Norton's Virginia Seedling; 6. Missouri Bird's Eye, (small, wine Madeira-like;) 7. Ozark Seedling, (excellent for wine, but rather dry;) 8. Big Ozark, (larger than the foregoing, otherwise similar.)" We feel a deep interest in grape culture and any of our readers who know of any valuable seedlings will confer a great favor upon us by informing us, or by sending us cuttings or plants, carefully packed, at the proper season. If any of our readers know any wild vines, bearing fair sized fruit, of good flavor, they will greatly oblige us by sending us cuttings. To our native grapes must we look for success in grape culture.

NURSERIES AROUND ROCHESTER.

It is hardly more than twenty years since the nursery business was first established in the vicinity of Rochester, N. Y. It has been gradually increasing in extent until the present time, and last year several hundred acres were added to the land already employed in this important branch of horticulture. Messrs. Ellwanger & Barry have now 450 acres in nursery grounds, and Messrs. H. E. Hooker & Co., have 150 acres, and numerous others have a greater or less amount of land devoted to the same purpose, so that the aggregate area of land devoted to the cultivation of trees and plants within a short distance of this city, is estimated at 2,000 acres. The number of trees that are annually sent off from these grounds to every portion of the United States must amount to millions, and yet owing to the increased facilities for transporting fruit to almost every city in the Union, the price is constantly advancing. Unfortunately for the public as well as for many of those who attempt to plant orchards, owing to the great lack of knowledge in regard to the necessary cultivation and treatment of trees, hardly one-fifth of the entire number of trees sent off from these and other nurseries ever survive long enough to produce fruit, while experienced and careful cultivators find it the most profitable branch of their farming operations.

With many farmers trees receive less care and attention than any of their annual crops, while nothing requires better care and more thorough culture than orchard trees. We know of no other remedy than to let this evil correct itself. Experience is a good school and many will learn in no other, but while we witness all over the land such sad evidences of neglect we can hardly refrain from urging reform.

NEW YORK INSTITUTE FARMERS' CLUB.

In New York, at the meeting of the American Institute Farmers' Club, June 21st, there was a splendid display of strawberries, hardly excelled by any exhibition that it has ever been our good fortune to witness. Dr. Ward, of Newark, New Jersey, exhibited some twenty sorts, including many of the old and inferior kinds, in order to show what had been done in the way of improving this fruit. William R. Prince exhibited seventeen varieties, sixteen of them were seedlings of his own raising. A large number of varieties were exhibited by other members.

A new invention was here spoken of which is likely to prove of great value for the transportation of the strawberry and other tender fruits to market. It is a box suspended in a frame by elastic straps, so as to take off the jar from every direction; this is a very simple arrangement, and should be universally adopted for the carriage of strawberries, raspberries, blackberries, peaches, &c. Of our western kinds exhibited were McAvoy's Superior, which here sustains its character, though it was thought by some of the members as too tender for a market fruit. Longworth's Prolific was exhibited, *thirty-two* of which weighed one pound, and was pronounced a remarkably fine berry. Wilson's Albany was here regarded as one of the very best strawberries now known; the only objection to it offered by any member of the club was that, owing to the immense weight of the clusters of large fruit the stalks were not sufficiently strong to keep the berries from the ground. This is an unfair complaint and all who grow it can well afford to do what should never be omitted with any variety, viz: mulch the ground with straw or any other suitable material to keep the fruit clean as well as to maintain moisture in the soil. We have taken special pains to investigate the character of this new fruit throughout our entire journeyings among the gardens and we hear but one expression in regard to it, and that is, it is the very best berry yet produced in this country.

Peabody's Hautboy was exhibited by Mr. Lawton, of New Rochelle, but fell far short of the extravagant illustration given of it by Mr. Peabody. It has proved a magnificent failure in every garden that we have visited; the largest portion of the fruit has blasted both in the west and in the east. The specimens that we have seen and tasted are small and not of the best flavor, the skin is remarkably tough, and when grown, may, in that respect, prove a recommendation for the purpose of transportation, but certainly not for the table. We will not condemn the fruit until it has another year's trial, though we are strongly inclined to regard it as a hum——.

GENESEE HORTICULTURAL SOCIETY.

On the 24th of June, the summer exhibition of the Genessee Horticultural society was held in the city of Rochester. There was a grand display of strawberries—the tables presented no less than one hundred and twenty dishes of as well grown specimens as we have ever seen. The manner of cultivating the strawberry here, by almost every grower, secures a size and perfection of fruit not known among growers in the west. All careful cultivators here cut off the runners and keep the hills or rows distinct, and never allow the vines to run together and cover the ground, admitting of constant and thorough cultivation close to the plants.—Those who are not familiar with the advantages of this mode of treatment can form no idea of the large size that may be secured with any of the best sorts.

Roses, Verbenas, &c.—A large collection of roses were exhibited. Messrs. Ellwanger & Barry showed 386 varieties, 48 of which had never been exhibited before. Messrs. A. Frost & Co., exhibited 360 varieties, and 47 new ones. William King 105 varieties, and many others a less number. Messrs. E. & B. also showed 87 kinds of Verbenas, 70 of them new seedlings. Messrs. Frost & Co., 60 varieties, besides a large number by others, together with a fine display of peonies, petunias and flowering shrubs, herbaceous plants, &c.

DWARF PEARS.

Of late, quite an exciting controversy has sprung up, growing out of an article which appeared in the *Horticulturist*, by Lewis F. Allen, of Black Rock, New York, on the Dwarf Pear, in which the writer attempts to establish as a fact, that pears on the quince stock cannot be cultivated as a profitable market fruit. Similar articles have from time to time appeared within the last two years, from different writers, in various sections of the country, all of which have been severely criticised by more successful cultivators, demonstrating most conclusively that those who have attempted to discourage the culture of this valuable fruit, were either ignorant of the prop-

er method of treatment or negligent in the necessary care and labor in its cultivation.

In our recent visit to the gardens and nurseseries, near Rochester, we saw extensive collections of Dwarf Pears in as flourishing a conditon as any one could desire to see, affording the most conclusive argument in proof of the health and profitable productiveness of this mode of pear culture, when correctly understood and properly attended to. In the garden of Mr. H. E. Hooker we saw trees seven or eight years old, that bore last year a barrel each of pears, and though it cannot be expected that trees that prove so productive one year will bear an equal crop the next, yet they present a fair show of fruit the present season. There were also, in the same garden, at least an acre set in dwarf pear trees, four years old, now six or eight feet high, that also bore a large crop last year, presenting as beautiful and healthy an appearance as any trees we ever saw.

In the gardens and nurseries of Messrs. Ellwanger & Barry there was a much larger collection of Dwarf Pear Trees, embracing every variety suited to the quince stock, from eight to fifteen feet high, which bore immense crops last year, and although like other kinds of fruit trees, after a full crop, they require one season to recuperate in, yet they are now growing most vigorously and will produce a fair crop of fruit the present season, and the same may be said of several other gardens we visited in the same neighborhood. The fact is, the soil in this neigborhood is well suited to the growth of the pear, and the cultivators, generally, are intelligent men, and understand well how to cultivate this fruit.

In a future number we will attempt, briefly, to review the articles of the writers alluded to, and point out the reasons why they have failed in their attempts to cultivate the pear on the quince stock.

THE CURCULIO.—Mr. Walker, of Kentucky, through the *Ohio Valley Farmer*, suggests the following remedy:—"As soon as the fruit is attacked, take a tin pan, into which soap-suds have been placed to the depth of an inch or two; place it in the tree, and place a small glass globe lamp in the middle of the pan, which permit to burn all night. In darting towards the light, the curculios strike the glass and are precipitated into the liquid, from which they are unable to extricate themselves."

GARDENING OPERATIONS FOR AUGUST.

BY CAREW SANDERS.

VEGETABLE DEPARTMENT.

Many of the earlier crops in this department will have proved partial or entire failures this season, in consequence of the excessive and long continued rains in the month of June. Where such is the case, extra exertion should be made now, to substitute in larger quantities than usual, such kinds as will yet succeed, so as to supply the table during the winter. Prominent among these, is the turnip class. The ruta baga or Swedish turnip should be more grown than it is. It forms a very palatable dish in winter, and there need be no fear of having too great a quantity, as horses, cattle and sheep eat them with relish.

The first week in August is a good time to sow this crop for late winter and early spring use. It likes a strong, moist soil, well worked and made fine. Sow in drills, eighteen inches apart, and when the plants are out in rough leaf, and out of reach of the fly, thin out to a foot apart in the rows. Stir the ground often. The white turnip may be sown at the same time for early fall use, and any time during the month, for later use. These are also best sown in drills fifteen inches apart. The white or purple top Dutch strap-leaved turnips are much the best for table use. They are of quick growth, medium size, small tops, round, smooth and their flesh tender, sweet and juicy—much finer than the coarse and stringy larger varieties.

Celery.—If you have good plants this article may be planted from the bed at any suitable time, during this month, with good success. Those who have not enjoyed this fine esculent, cannot appreciate the luxury it affords as a salad all through the winter. The ground should be prepared and in readiness, so that at every rain you can set to work and plant, and then little or no watering will be needed, and much labor saved. Select rich, clean, moist ground, and if you manure, use a compost of well rotted manure and leaf mould, well mixed and incorporated with the soil. Lettuce sown this month will come in excellent in the fall, and as it is impatient of transplanting in hot weather, it is better to sow the seed in drills and thin out.

Raddish.—The yellow turnip variety we have grown very tender, and good for eating in September and October, when sown in August.—Endive is another useful salad and may make a crop if sown the first of the month. Treat the same as lettuce. Snap beans may also be planted.

Continue to hoe and stir the soil frequently, among your late growing crops, like cabbage, cauliflower, corn, &c., &c., as on this, probably, will the success of the crop depend. The ground having been rendered so hard and solid, by the heavy, dashing rains, it will not give off its fertilizing materials, without especial aid, by these artificial means. Continue to combat vigorously, all weeds that are not yet subdued. A hard fight it has been this season, and the battle, we

fear, has often been in favor of the weeds, over the strongest arms and the best reasoning faculties, and so it appears likely to to continue to the end of the chapter.

FRUIT GARDEN.

The season of small fruits, (except grapes,) is over for 1858. Cultivators can and should take a retrospective glance at its results and see what progress has been made—what new varieties there are that promise well or are confirmed superior, or are to be placed on the rejected lists—what old varieties that can be superseded, or that are to maintain their old positions—what improvements theory or practice has suggested in the cultivation of any or all kinds. Every year must add to the knowledge and experience of every one who practices and observes with intelligence, and such a one cannot live without learning. It is folly to cultivate an old variety merely because it is old, when it is as easy to grow a superior variety, and double your produce in quantity and quality, with the same amount of labor. Yet these things are done. Comparatively little is to be done in this department this month, but the following hints are believed to be applicable.

Strawberries.—A good plan is to clean the ground between the rows and let the young plants occupy the new ground, and dig or plow the old plants in. It is the simplest method of culture, except that of letting them run together in a mass, and a much better plan, as they are all young plants, and the finest berries are produced on strong, yearling plants; and if a strip of ground, 12 or 18 inches wide is covered with plants, forming the row, a good crop may be expected from them next year.

Raspberries.—As soon as these have done fruiting, the old canes which bore may be cut out at the bottom, and the weakest young ones also, leaving about four or six to fruit the next year. All weeds and suckers should be kept hoed out, between the rows, unless wanted for propagation.

The same treatment will also apply to blackberries.

Continue the summer pruning of dwarf pears, apples, or indeed any of the larger fruit trees. It will save a great deal of cutting away in winter. Besides stopping the large shoots as advised last month, if you look into the center of the trees, you will see many smaller and weaker shoots, growing in all directions, crossing each other, and crossing the main shoots.—All these help to thicken up, and smother the center of the tree. They should all be taken off to within a bud or two of the base, and if they start again should be cut off again. And they will most assuredly form fruit spurs some time or other. Indeed to have a sufficient number of leading shoots to form a good and well balanced head, and these evenly and regularly placed, short-jointed and well furnished with fruit spurs—embraces the whole philosophy of pruning fruit bearing trees.

FLOWER GARDEN.

If some or all of the directions and hints given in previous numbers have been attended to, added to what every one's own ingenuity would suggest, and their taste and love of the beautiful, their passions or their hobbies would lead them to think of, and to practice, those amateur gardeners, the ladies, may now be in the full enjoyment of flower and foliage, fragrance and beauty, scattered around them in richest profusion. To the real lover of the floral tribe, the summer season affords abundance of pleasurable excitement, and subdued though agreeable sensations. In watching the unfolding bud and admiring the open, full blown flower, a round of excitement is kept up through the season, as some kinds pass away, to be succeeded by others as lovely and as interesting as the last, with a constantly changing variety, like a moving panorama. There is no monotony in this, but an ever changing variety of forms, colors and features, from the modest little snowdrop, in earliest spring, to the georgeous dahlia or showey Chrysanthemum, blooming on till frosts of early winter.

It may be you are interested in watching some seedling, saved, sown and tended with the greatest care, anticipating something new and superior to all others, or it may be, varieties that you have seen highly spoken of, that you have procured at considerable cost, or even the old, well-known favorites, that annually greet you with their same old, familiar faces—all are pleasing and interesting, to those who have made the beautiful in nature their study and love. Flowers have their utility as well as beauty and should never be ignored—for they do tend to soothe, soften down and humanize rugged humanity, and few there are that can remain untouched by their beauty and purity.

Of the work that may be done in the flower garden this month, that of keeping the ground and walks clean, the grass short, and the edges neat and tidy, is so essential to a good appearance that no one will omit it, who makes any pretension to a garden at all. Roses may be both layered and budded all this month. Several kinds of the hardiest annuals may be sown which, with a little protection, with dry litter scattered over them, will live over winter and bloom early in spring. These are Antirhinum, Centaurea, Clarkia, Collinsia, Coreopsis, Phlox, Scabious, Sweet Allysum, &c. Dahlias, Chrysanthemums, and other tall growing plants will require going over frequently and the stray branches tying up to the stakes to prevent them from breaking off, while the Verbena and other trailing plants may be pegged down as they advance in growth, to make them cover the bed, and by rooting at the joints, will form, as it were, new and vigorous blooming plants.—Chrysanthemums for blooming in pots, in the winter, may be propagated as follows: Fill about four or six inch pots with soil, then, from the old stools, lay the point of a shoot about six inches long, by simply giving it a twist and pegging it down in the pot. Have the pot sunk in the earth up to the rim, water a few times, and in a few weeks it will be rooted. It may then be taken off and potted into a larger pot, and will make a nice, bushy plant and bloom freely through early winter, in the house, after all the out door ones have been cut off by the frost.

St. Louis Fruit Garden, July 19, 1858.

ADDRESS

OF

DR. JOHN A. WARDER,

BEFORE THE NORTH-WESTERN FRUIT GROWER'S ASSOCIATION,

At Alton, Illinois, October 2d, 1857.

GENTLEMEN OF THE ASSOCIATION:—Allow me to congratulate you upon the return of this annual convocation of the *Fruit Growers* of the great North-West. It is an occasion of deep interest to those of us who are engaged in this important branch of agricultural pursuits. The production of delicious fruits and the various trees from which these fruits may be gathered, has, indeed, in these latter days, assumed an importance among the interests of our country that cannot be questioned. In former times there was a small nursery here and there, from which the neighboring farmers supplied themselves with the few trees they desired to plant, indeed many orchards were grown upon a corner of the farm upon which they were to be planted. In those days the best varieties were limited to a few, or in most cases, the orchards were planted with seedlings, or "sprouts," as they were called. Thus the responsibility of the nurseryman of those times was small, and thus too, a modicum of knowledge in fruits, made such a man quite an oracle among his neighbors. Now, this is all changed—intelligent men devote their whole energies, talents and capital to this department of industry, their trees are counted by millions. Their responsibilities to community are thus vastly increased, and hence the absolute necessity of these periodical convocations of nurserymen and orchardists, in which the different members come forward, each with his quota of information, gathered within the range of his own observation, and eager to inform himself of what others have done in the march of progress, so that all may increase their stock of knowledge.—This system of mutual aid marks the spirit of the age in which we live; it is applied in many departments of human knowledge—the highest savans find advantage in thus conferring together, in their association meetings, and the common artizan is benefitted by exhibiting his fabrics, and interchanging views with his fellow laborers, at the chrystal palaces and other industrial exhibitions which have been held in our century, and have characterized the age in which we live.

In our own favorite department of Horticulture, in the pursuit of Pomology, each student must be self-dependent; he must observe peculiarites of wood, leaf, habits, and mode of growth of the tree; he must closely study the peculiarities of shape, color, structure, seed and flavor of the fruit, as well as the physiology or natural history, of the whole plant, its favorite soils, manures and general treatment; all these matters he may, indeed he must study out for himself, and yet, by means of books, imperperfect as they unfortunately are, and by the aid of remarks made by such other observers in the same field, as he will meet at these pomonal festivals, he will often have his attention directed to the scrutiny of many points in the character and history of fruits, that would otherwise have escaped his observation. The fewest of us have ever been taught to observe properly. Having eyes, we see not as we should—hence the great importance of these meetings. Then again, the number of fruits in cultivation, and the years necessary for them to come into a state of productiveness, require a lifetime for any one person to study them all upon his own grounds—whereas, we may here see the fruits produced by others, and may, from their own lips learn the various peculiarities, so far as they can be expressed in vocal language.

Within a limited range, it has been found that certain varieties are more or less successful, according to the adaptation of soil and climate, and too, according to the wants and tastes of the *market* for which the fruits are produced. Thus in some cities, a red apple is preferred to a white one, while perhaps the same purchasers may prefer a pale strawberry to a dark colored fruit—some persons will pay a better price for free stone peaches—some will eschew all but the pavies or clings—some will demand the largest varieties of all fruits, taking size as a qualification, even at the expense of flavor, while other customers, with better judgment and greater economy, will select the medium sized and smaller fruits, particularly in apples, pears and peaches, because they find them also more frequently remarkable for their high flavor and excellence. These circumstances have been noticed and the organization of local Horticultural societies and clubs, have furnished schools of great value to the neighboring cultivators. For more extended areas, and for the benefit of those persons who live isolated from others engaged in similar pursuits, State Pomological societies and conventions have been found of great advantage, although, with the extension of area, we always find greater diversity in the opinions expressed by the different members, and consequently less definiteness in the data, to be derived from the deliberations of the body—particularly in the attempted decisions upon fruits, and their estimated value as expressed in the formula adopted. *Our* association, being open to the immense territory that may urge a geographical claim to the "NORTH-WEST," although it embraces some of the most acute observers, and most intelligent and best informed pomologists of the continent, and although it has already held some of the most interesting meetings, and made the finest exhibitions of fruits; and has, in its deliberations, arrived at very satisfactory conclusions upon some quite important practical points, still, we may expect to find less and less unanimity in voting upon the merits of certain fruits, in the ratio of our numbers and the greater extent of territory represented at our meetings. In this respect our organization simulates that of the American congress of Fruit-Growers, now known as the United States Pomological society, which, at its biennial sessions, attempts to collect and collate, the fruits and opinions of the orchardists of the whole continent.

The importance of these grand re-unions of

Pomologists begins to be appreciated in Europe, particularly on account of their labors in reducing the labarynths of synonomy, which were formerly so very bewildering to nurserymen and orchardists, but which have been greatly reduced at every meeting. Great Britain may be said to have *followed us* in the organization of Pomological societies, and about the present time the second Pomological congress is being held for France. Would it not be well for some of our American societies to be there represented by an intelligent delegate, with samples of our glorious fruits? The French have extended to us the invitation, but I have not heard of the appointment of any representative, from any of the numerous societies of this continent to meet with the French *Pomological Congress.*

Finding myself honored with the appointment of delivering the annual address before this association, which, as a high compliment, that I knew not how gracefully to decline, I therefore accepted, (though with a sort of proviso,) some of you will have to exercise your good nature, and extend your forgiveness for the egotism that must now be introduced, to explain my position and the manner and the matter of the remarks which will be made upon this occasion.

In my reply to the note suggesting the appointment, it was urged in the first place, that *forensics* had never been my study, and therefore, if a mixed audience of intelligent ladies and gentlemen were to be elegantly and eloquently entertained and instructed upon this occasion, as has been your custom, upon previous anniversaries, the society had better make a different selection of the man who should cater "*for the feast of reason and the flow of soul.*" Of the truth of this sentiment I ask your silent assent, knowing full well that it will be earned. In the next place, and as a condition of the acceptance of the honor, it was suggested to the appointing officers, that all I could have to offer, as the staple of my discourse, would be a very few very plain and very practical remarks upon some points in the production and management of *trees in the nursery*, and upon the *selection of sites* for the *orchard*, the *choice of varieties* and the *modes of treatment.*

This saucy acceptance of the appointment, *with conditions imposed*, was most kindly received on your behalf, by your officers, who authorized your speaker "to select his own topics," and to treat them "in his own way." There are still difficulties, which at first threatened to be insuperable, and which, like mountain summits, "the higher rise, the nearer we approach." I refer to the fact, that ever since my first uniting with this association, I have felt myself to be but a *student* among *you*, the intelligent, practical *masters.* How then can I, *your pupil*, assume the rostrum of the professor, and pretend to teach you the practice of your profession? *Believe me*, and you may appreciate the reluctance with which the task is attempted.

1st. With regard to the production and management of trees in the nursery, it will not be expected upon such an occasion as this, that you nurserymen should be lectured upon the details of your art, nor that the arena of the planting, culture, budding and grafting trees should be treated in their minutiae; of all these topics you are supposed to be already the masters—their thorough discussion would require a long course of *praelections*, more appropriate for a systematic round of lectures upon the subject, such as may yet be demanded by the people in the agricultural schools to be established, and let us hope, such as will, one day, be furnished when a complete establishment for an industrial education shall be perfected. The importance of having healthy and vigorous *stocks* upon which to work our choice varieties is very well established; these should generally be *seedlings*, and, in those kinds of trees that are readily reproduced from the seed, such as the apple, pear, cherry and peach, among our fruits, seedlings are almost universally used. Here, however, we may exercise a selection of the seed to be planted; certain families, in each species, being found much more vigorous and hardy, they should always be selected as the source from whence to propagate our supply of stocks—for it is not true that seedling stocks are always more vigorous and hardy than those produced by layering, or from cuttings—quite the opposite state of things has frequently been observed in the nurseries of the north west, and many of you have seen the seedlings suffer more from the severity of the weather than grafted or budded trees of the same species, even when standing in the seed bed, in their native integrity, tap root and all undisturbed. I do not, however, agree with some leading writers who have advanced the theory that every tree should, of necessity, have a *separate individuality* in its collar and descending axis or root system—in order to make it a perfect specimen. In some cases, it is true, the chances of producing a perfect development, are found almost exclusively among the *seedlings* of a species, since those specimens that are produced by *extension*, whether as layers or cuttings, and in some instances, even by grafts, which are simply cuttings, inserted into a bed of forming wood, connecting them with the soil, instead of into the earth itself; *such specimens*, I say, do not furnish us with the full development of tree. This is particularly the case with certain evergreens, with a strong leader.—These, however, are the exceptions to the rule, and, in the majority of cases, we may safely propagate any variety to an almost indefinite period, so far as we know, by means of cuttings, whether of *twig* or *root*, by layers, as also by grafting and budding. I shall not here attempt to discuss the Knightian theory, nor express further opinion respecting the *duration of varieties*, than merely to suggest, that other causes, such as the exhaustion of the soil, and other want of favorable conditions, may have had something to do with the failure of some varieties of fruits—and, as a *per contra*, I will direct your attention to specimens upon your tables of some fruits that have been cultivated

for centuries. At the recent national exhibition of Louisville, Ky., several of the old European varieties of apples were exhibited, that even exceeded in beauty, soundness and excellence, the pictures and descriptions of the same fruits, taken from their original sites and stocks.

I have said, that the stocks upon which the nurseryman should work his trees, should generally be seedlings—there are, however, exceptions to this—there are species and varieties that are much more expeditiously and more successfully propagated by cuttings, by division and by layers, and, so far as we can judge, at present, laying theoretical views aside, these plans are perfectly safe, and the specimens thus produced are perfectly healthy.

Too much stress has been laid upon seedlings and their hardiness—valuable for the production of new varieties and then should be conducted with skill, by hybridizing, to produce effects.

To proceed from this digression, to the consideration of nursery treatment of trees, it must be premised that the ground should have been well selected and thoroughly prepared by drainage and deep culture. High, stimulating manures are not advised, but all such means should be applied, as will produce a *vigorous growth* in the early part of the season—among these the warmth effected by *deep drainage*, *thorough tilth* and *moderate manuring*, will exercise a powerful influence, and may be much aided by constant cultivation. This is the natural period of growth by longitudinal extension, the remainder of the season being appropriated to the perfection of the wood cells, and to the storing up of the proper juices in those centers of life, *the buds*, in which the vitality of the tree is collected, and upon which, indeed, the continued existence of perennial plants depends, just as in those of annual growth, the whole vitality of each individual is concentrated in its seeds. The buds may be looked upon as the seeds, from which the next crop of leaves and wood is to proceed—hence the absolute necessity of having these perfectly matured before the approach of winter. Nurserymen desire to produce as much growth by *extension* as possible, and by high manuring and constant culture, the young trees may be stimulated, in most seasons, to continue their growth until the end of summer, and even into the autumn, and, owing to our glorious climate, they may still be able to make all their arrangements for *hybernation* in a satisfactory manner—such, however, will not always be the case, and too often the hyernal blasts will come upon such trees, when they are illy prepared to withstand their blighting influences, in consequence of the sappy condition of their shoots, and the soft and imperfect state of their buds. Every observant nurseryman is aware of the importance of having the terminal buds of his young trees completely perfected before the close of autumn, and not again excited into activity before the cold winter. Another point in regard to the treatment of nursery trees should be immediately mentioned in this place—that is their *pruning*. The natural direction of growth is upward—every young tree will incline to have a *leader* or main shoot, tending upward—the nurseryman, emulous of producing as great an amount of growth as possible, will be inclined to encourage this shoot by removing all lateral branches—the crowded condition of the young plants in the nursery also favors this result.—Sometimes the effect of all these forces is to produce a set of tall, smooth and beautiful canes, straight as an arrow. Some varieties, however, especially of the pear, will incline to one side and then the determined cultivator of tall trees, will force them into uprightness, and tie them up to stakes to effect his object. All this is wrong—the tree, like the child, needs an equable development of all its parts, in every direction. To produce this effect in the nursery, sufficient space must be allowed; the lateral branches must be encouraged, though subordinated, and the leader must simply be maintained in its supremacy by having all competitors kept down, by twisting, pinching off or otherwise shortening in. To prevent a late growth of the young trees, it has been suggested to discontinue all cultivation or stirring of the soil after midsummer, even allowing the weeds to take possession of the spaces between the rows, which gives the nursery a very slovenly appearance. A better plan has been practised by our friends, Overman, of Canton, Ill., who sow about three bushels of oats per acre, at the last dressing of the trees, say in July. A thick grassy carpet is thus spread upon the ground, which covers the surface and takes up the redundant moisture, checking the growth of the young trees and affording a shelter also from the wintry cold.

If cultivation be considered necessary to destroy weeds after midsummer, this operation should be performed by means of a sharp scarifier horse hoe, which would only cut off the weeds at or near the surface of the ground. A very important part of the nursery management of young trees consists in the manner of taking them up from the rows. Those which have been perfectly managed up to this time, which are thoroughly well and evenly developed, stock and firm, may now be utterly ruined by carelessness on the part of the diggers. The spades should be inserted into the ground in such a manner as to spare the roots as much as possible, the earth carefully removed from each side and a large proportion of the fibers preserved. Instead of this, we often see beautiful trees, with scarcely any roots left upon them, or perchance, the mattock having mangled them terribly.

One of the best methods of securing good roots, particularly an abundance of small and fibrous roots near the collar of the tree, so as to be removed, at the time of taking up for sale, is to have the nursery trees transplanted once or twice during their nursery existence. This plan, however, requires more labor than most of our large nurserymen could bestow upon their trees. Lifting from their beds, without removal, may be practiced at less cost, and with similar good results.

[To be Continued.]

NOTES ON SMALL FRUITS FOR 1858.

The following are some of the varieties of small fruits, new and old, that have fruited in our garden the present season. We append our observations and opinions of the merits of those named.

STRAWBERRIES.

The abundant rains through the spring caused the berries of this favorite fruit to swell out larger than usual, though doubtless at the expense of quality. They were pale, watery and soft, somewhat insipid and flat to the taste, and susceptible of early decay.

Washington we believe identical with the Iowa male, but not with the Early Scarlet, as some here suppose; very hardy, vigorous, very early, good bearer; size, medium, roundish, flat, pale red color, soft and very acid and inferior in flavor. A good market variety on account of its earliness, but can be superseded by others in all respects.

Hudson.—Pistillate, hardy and vigorous; fruit rather small on short footstalks, causing the fruit to lay on the ground; berry deep crimson and solid; on which account only is it worth cultivating.

Hovey's Seedling maintained its well known excellence; fruit large and handsome, of fair flavor, not a certain large bearer.

McAvoy's Superior.—A really splendid variety; berries very large and handsome, deep crimson. We have always thought this the best flavored of all the strawberries, but with several years experience with it cannot recommend it for extensive market culture. It is not a certain large bearer every year, a few berries will be large, many below medium, without high culture. For the amateur's own garden we consider it A No. 1.

Longworth's Prolific.—Hermaphrodite; hardy, vigorous, excellent bearer; berries large, deep crimson, firm, of good flavor, not sour as a writer in a cotemporary has it. One of the best.

McAvoy's Extra Red.—A pistillate, but an immense bearer; Fruit of a uniform, medium size; bright red, rather too acid, and too soft to bear carriage well; a good variety notwithstanding.

Wilson's Albany.—This is a most promising variety here as elsewhere. Believed to be as early as the earliest; an immense bearer and good grower; berries large and uniform; broadly conic, handsome and regular; free from knots and imperfections in setting, which some other varieties have; color deep, rich crimson; rather acid, but has the true strawberry aroma very strong, and when eaten the usual way with cream and sugar, is all that can be desired in flavor. The writer first saw this berry exhibited at Albany, N. Y. in 1853, by the raiser, the late Mr. James Wilson, and thought highly of it then. He still believes it will become one of the most popular market varieties, and as familiar to the country as the old Hovey's Seedling.

Peabody's Hautbois.—This famous southern variety has produced some good fruit with us this season, but does not promise well. It is a strong grower, with large and distinctly shaped berries, but seems to be deficient in productiveness; cannot recommend it without further trial.

RASPBERRIES.

We have three varieties of the native species in bearing. The black cap is too well known to need a description; the yellow is similar in all respects but color; both are valuable on account of their certain hardiness, and the firmness of their fruit to carry to market. The other is a purple variety, equally hardy and productive, with a much higher flavor, but the fruit is too soft and will not carry well. Valuable to the amateur.

Brinckle's Orange.—This is a splendid fruit and appears to do as well here as at the east. Size, large; form, sharply conical; color, paleish yellow, not orange as its name implies.—Flavor excellent. Best in all respects, showing evidence with us of remaining a long time in bearing, thus lengthening out the season, and a great bearer at that; a strong grower, with light colored canes and large, light green corrugated leaves; a very distinct variety; one quality we notice is, it is much less free to throw up suckers than any other variety we know, a useful qualification to those who grow for fruit. Must become a standard variety.

Kirtland's Seedling.—This new variety promises well. Canes vigorous and hardy, with a large red fruit, of good flavor and tolerably firm.

We have the Allen, Catawissa, Thunderer and others on trial, but cannot speak decidedly of their merits as yet; must wait another season, except for the Catawissa, which we expect to see do something in its great capacity of everbearing this fall.

BLACKBERRIES.

Lawton.—Whatever this famous fruit may be elsewhere, it is no humbug here, but a real live acquisition in the blackberry line. Plant, a vigorous grower, and undoubtedly hardy in this latitude; fruit very large, handsome and showey, and of the deepest, glossy jet black. Flavor sweet and fine. This berry, we think, is nearly or quite all that is claimed for it, and comes up pretty well to its picture, (a rare thing nowadays,) and for productiveness is not surpassed, even in this region, where the wild blackberry grows finer and bears better than in any other locality we ever saw before. Should be in the garden of every lover of choice fruit.

CAREW SANDERS.

St. Louis Fruit Garden, July 1858.

The Home Circle.

THE VEGETABLE FRUIT AND FLOWER GARDEN.

We hope our lady readers have not failed to read the excellent articles of our esteemed correspondent, Mr. Carew Sanders, of the St. Louis Nursery and Fruit Garden, on the operations in the Fruit, Flower and Vegetable Garden, which have appeared in the *Valley Farmer* for the present year. We are pleased to hear that they have given such general, we might say, universal satisfaction. Mr. Sanders is a gentleman of excellent attainments, in his profession of Nurseryman and Florist, and he is withal strictly honest and reliable, and the advice which he gives, from month to month, in the columns of the *Farmer*, may be implicitly relied upon. He speaks from his own experience, which makes his articles so much the more valuable. The great object of our ambition is to make our work *eminently practical, useful and reliable in all departments*, so that our readers may feel that in the *Valley Farmer* they have a true and reliable friend, ever ready to impart the most valuable information, on the subjects it treats.

The management of the garden, among our rural population, too generally devolves upon the wives and daughters of the household, and, in many cases, there would be no gardens kept up at all, worthy the name of garden, but for them. Without any knowledge of the subject, the entire responsibility of its management devolves upon them. This is wrong. The farmer should take as much pride in having a well kept garden as in having a well kept farm—but the difficulty is to make him think so. In order to aid the ladies, in this department, and the "lords," too, we have procured the services of Mr. Sanders to prepare a Calendar of Operations, for the garden, each month.

Wapello, Iowa, July 12, 1858.

Mr. Colman—As I am on the wing I must send back a missive for the Home Circle. The Home circle; how sweet the thought when one is away. That circle of love and good will; of rich promise and holy hopes; of fast friends and good deeds! What is like the home circle? It is the hearts resting place, the charmed source of our best happiness, charmed by conjugal love, by the dear amenities of consecrated friendships, by parental and filial affection, by a thousand mutual and reciprocal offices and good wishes. As I write my heart goes back to my own home circle and seems to rest amid its peaceful scenes. I seem to feel the presence of her who is the life of home and the joyous caresses of the little pair of rosy life-flowers that dwell about her. God bless them all; and the members of all home circles. How does every man's heart go back when he is away from home. No matter what he sees to interest him; no matter how fine the country through which he passes, how good the friends he meets, how successful his journey, his heart will linger behind him, and long for the good friends at home to enjoy with him the delights of travel. Does he meet with any wonder, beauty or object of interest? He wants his wife to enjoy it with him. A thing enjoyed alone is not half enjoyed; nor is it much better when enjoyed with strangers. It is very clear, that we are not half ourselves when we are alone. We are made for circles of dependence and friendships. We lean upon one another and gain strength by mutual dependence.

"The heart like the tendril accustomed to cling,
Let it grow where it will cannot flourish alone,
But will lean to the nearest and loveliest thing
It can twine with itself and make closely its own."

THIS GREAT WEST

How one feels the greatness of this great west when he travels up our magnificent rivers and over our far stretching prairies. On, on, on he may go, driven by steam from town to town, day after day, and still the great west is making off around him on every side, a kind of land ocean apparently without shore. He may take horse and push out into the unsettled spaces and be out weeks and months exploring and still the west only expands before him. Lovely prairies, woodlands, rivers greet him as he travels; a rich soil is ever under his feet; a genial climate is around him; fair winds favor him; health blows in every gale, and beauty glows on every side. Rock, clays, coal, mineral crop out along his way, indicating unseen treasures; springs, rivulets, lakelets are frequent; wild fruits, timber, vines, grasses and seas of flowers are scattered profusely over the whole vast region. This is the West. But what will it be in a hundred years from now, when it is settled all over with home seats, with farms, orchards, pastures, grain fields; when the toll of town bells shall be heard all over the country, and the merry mirth of school children shall ring in the air? A glory hangs over the destiny of the West that no man dreams of yet; especially if the people of this age are virtuous and wise enough to plant good institutions and inaugurate an era of intelligence, industry and virtue, that shall pre-

serve and improve the fair fabric of our present civilization. I have great hopes of the West and the world. Oh that the people may be wise and help on the good time coming.

THE CROPS.

Some kind of crops look well in this region, Grass is particularly fine; potatoes promise well. Some corn is good, some doubtful. Wheat gives moderate crop; oats small. Still the hopeful look for a moderately fair year for the farmers.

THE TIMES.

Hard times is still the cry. And so it will be for some time. People are not all out of debt yet. Confidence is still weak. But things are mending. Men are slowly meeting their obligations. A noble patience and spirit of accommodation prevails everywhere. It is hoped the farmers will push out their produce as fast as it is ready for the market, let the prices be what they may. It will revive trade, and give impulse to the general business of the country.

ECONOMY

The people are taking lessons in economy. Hard times is the teacher. They learn well. This will prove a good school yet. It is bringing many a crazy man to his senses. It is taking down the plumes of vanity. It is hauling in the horns of pride. It is putting bits into the mouth of speculation. It is settling up old scores. Its practical maxim is to be, "pay as you go."

THE PROMISE.

The promise for the future is still fair. When the pressure of the times is over there will be a healthy movement in the right direction. Our farmers will be square with the world. Their land will be their own. Confidence will be restored, money will be plenty enough; prices will be fair; the spirit of adventure will be checked; man's desires will be curbed, and a healthier state of society will come along as a natural consequence. Let farmers take hope, be patient and work bravely on.

CAN YOUR FRUIT.

Fruit, we believe, ought to be the commonest, plentiest, cheapest, and most universally used article of diet. It should be more general than bread or vegetables, or meat; for it should be eaten with them all and at all meals. And in order that we may have a good variety of it through the year, the process of canning should be begun when the first fruit ripens and kept up through the fruit season. A few cans of strawberries, gooseberries, currants, raspberries, cherries, blackberries, peaches, pears, plums, each in their season, will afford a fruit luxury every day of the year. Those who have choice apples may can a portion and so preserve them through the year. To be canned the fruit must be cooked and put up hot. Let the can be filled full when heated to the boiling point, and then sealed. The process is very simple with the self-sealing cans. They are filled and then sealed with a screw stopper which screws in air tight. All fruit should be sweetened and made ready for the table before being put into the cans. The whole secret of preserving fruit in cans, is simply keeping it from the air. It is heated to exclude all the air from the openings in the fruit, sealed when hot to keep out the air as much as possible from any vacant places that may be left between the fruit and cover. Every woman should know how to can fruit as well as make bread. No young woman should be regarded as marriageable till she knows how to can fruit in number one order. Let the canning process be carried on with vigor and every family be supplied with fruit.

HOW TO SLEEP

Sleep is one of the great essentials of health and happiness. All people must sleep more or less and the amount of sleep required for each individual is determined by his activity, labors, exercises, or the wear and tear he gives his system. Lazy people generally need less sleep, and get more than active ones. There are rules for sleeping.

1st. Sleep in pure air, in rooms well ventilated, large, airy. Avoid close, small, tight, low rooms for sleeping. Get accustomed to open windows, breezes, fresh air.

2d. Sleep at regular times. Retire at stated hours. Be regular in all habits.

3d. Sleep at night, in the night. The sun sets us a good example much of the time. Retire and rise with him. Do not keep late hours then sleep late in the morning. The night was made for sleep.

4th. Sleep with easy stomach; not overloaded with food; not crowded with rich pastry, viands or luxuries; never attempt to sleep immediately after a hearty meal. A full stomach is death on sleep.

5th. Do not be too warm. Keep a comfortable temperature; but better too cool than too warm. Avoid warm rooms, hot localities for sleeping, close under a roof on a warm night. Sleep well and the functions of health are pretty sure to go on well.

The Young Folks' Page.

WRITING;

OR LITTLE SARAH RICH.

"Oh, I wish I could write such a good piece as that," said little Sarah to her mother, as she laid down the Child's Magazine. "What makes you wish so, my child, replied Mrs. Rich. "Because the thoughts and words are so beautiful; they make me feel so happy; I should like to be good enough and wise enough to make others as happy as this piece has me." "Do you not think you can?" asked the mother. "Oh no," replied the little girl; "only great minds can think such thoughts and write them in books." "How do such minds become great?" asked the mother. "By study, I suppose" answered the child, already wiser than she supposed. "Well then," continued the mother, anxious to give a word of instruction at the right time, "cannot you study? You are young and strong. Life is before you. You are pleased with the rich words you have read. You understand them. They make you ambitious and happy. You feel as though you want to be good and wise enough to write such words yourself. If you will study faithfully and seek always to be wise and good till you are as old as the woman who wrote the article you so much admire, perhaps you will be able to write as well." "Do you think so, mother?" asked Sarah, looking eagerly into her mother's face. "Is it possible?" "Yes, more than possible; it is quite probable. But it will take years of study and trial with the pen. Nobody writes well at first. The very best have to write for years before they can put their thoughts clearly upon paper. If you will make the effort I will warrant you, you will by and by be able to write well.

"Then I'll try, and try, and try again," responded the happy girl, full of bright visions.

"It is all blind as nonsense mother. I don't understand this stupid rule. Grammar is as blind as Arithmetic. I don't see what they are good for," exclaimed Sarah Rich, after she had set herself about studying to be able to write as well as the Editor of the Child's Magazine. "But you must not fret about it my child," said her mother. "Only work carefully at it. Let me help you a little, and you will understand it. Your favorite author had her troubles with grammar, I have been told. And a lady who was once her teacher, told me she once threw down her Arithmetic, declaring she was such a fool she could never learn it." "What, was it hard for her?" asked quickly the anxious girl, half glad that one so great was in like trouble with herself, and half encouraged to believe she might be wise. To be sure it was," was the quick response. "It is hard for everybody at first. And it is only hard study that makes it easy. Now let me explain what troubles you."

Very ready was Sarah for the explanation, for she was weary with a day's study and oppressed with a sense of her own weakness. But in a few minutes all was made clear and she wondered she had been so simple as not to understand before. She soon got out her grammar lesson and recited it much to her satisfaction. She retired that night encouraged with the thought that great men and women had their difficulties with their early studies, which her mother had enlarged upon in the evening. She resolved on pressing forward determined to overcome all obstacles, come what might. She spent several studious years under her mother's instruction, till she had mastered the rudiments of a thorough education; often giving up in despair, but as often kindly encouraged by her wise and faithful mother, who was what all mothers should be, mother, teacher, friend, to her child.

(TO BE CONTINUED.)

CHILDREN AND BOOKS.

Children like books almost naturally. At first they like them to look at. Those that contain pictures are especially attractive to them. The picture leaf will always be worn out and soiled where there are children. As soon as they can read they like them for what they can get from them. We say to the children, therefore, get all the books you can, and look at all the pictures; study the pictures: find out all about them, what they mean, what they represent. Be very careful of books. Treat them as you would the friends you love. Do not soil or tear or injure a book. If it is a good book, it is a precious thing. It will show and tell to a thousand people what it shows to you. Keep all your books; get all you can properly and so gather up a library. To parents we say, supply your children with books. Cultivate a taste for pictures, that through them they may learn to like books. Better buy them picture books than playthings. Never scold the children fer wanting to look at pictures and books. It is a good sign. Buy them books; explain the pictures, stories and reading, and so inspire in them a taste for books. A taste for books is better then almost any other you can awaken in them.

Editor's Table.

NOTICE---REMOVAL.

The office of the VALLEY FARMER, in St. Louis, has been removed to the North-East corner of Fifth and Chesnut streets, in the new building opposite the Court House—room No. 7, 2d floor.

TO SUBSCRIBERS AND CORRESPONDENTS OF THE VALLEY FARMER AT THE LOUISVILLE OFFICE:—The state of my health requires that I should seek a change of climate during the present summer. All persons, therefore, in writing communications and notices of Fairs to be held in Kentucky, intended for the Valley Farmer, or matters of enquiry requiring public answers, or private letters designed for me, will, for the present, direct them to the undersigned at Sag Harbor, Long Island, N. Y. All subscriptions and any notices of failure of the Farmer to reach subscribers, may be directed as usual, to the Louisville office, where they will be promptly attended to.

H. P. BYRAM.

Valley Farmer Office, Louisville, June, 1858.

The Weather and the Crops.

Since our last monthly report the summer crops have mostly been harvested. Our fears expressed at that time in regard to the effects of the heavy rains upon the small grain have been fully realized. The fatal effects resulting from rust upon the oat crop have never been equaled. In Kentucky, Missouri, Tennessee, and States farther south, the crop has proved almost a total failure. Blight from this cause has seldom occurred of a serious character upon oats, while the present season it has proved more universally fatal than it has ever been known to do upon the wheat. From the first appearance of the plant to the development of the blossom, oats grew with unusual vigor, and the last heavy rains that occurred just as the grain was forming, were calculated to aggravate the disease to a remarkable extent. Wheat, in many sections of the West, has also suffered in some degree from the same cause, though to a much less extent than at one time it was feared. In some portions of Ohio the midge has proved unusually destructive, otherwise, taking the State through, the crop will be a fair one. In Indiana, though somewhat injured in some localities by rust, the crop will be more than an average one. In Illinois an average yield will be realized, with the exception of that upon lands subject to the greatest injury from the excessive rains.

Barley, generally, was so far forward, when the most fatal rains occurred, that the crop has afforded a good yield.

The corn crop, upon lands not subject to flood and overflow, since the cessation of rains, under the high temperature that has followed, has come forward at a rapid rate, and now presents a luxuriant appearance, and with favorable weather will afford a good yield.—On some of the overflowed lands large quantities of early varieties may have been planted, and although it was planted late, if frost holds off until the usual period, in the fall, a fair return may be expected. All the early seed corn in the eastern markets that could be procured in time was planted, amounting to thousands of bushels. Potatoes in the west will turn out more than an average yield.

Our County Fairs.

We acknowledge the receipt of numerous invitations from county societies in Missouri, to deliver the annual address at the fairs of their societies the ensuing fall.—It will give us great pleasure to attend as many of the fairs of our State as possible and where other speakers are not engaged we shall take pleasure in throwing out a few hints on agricultural matters, for the benefit of those in attendance. We shall endeavor to visit as many of the fairs in the western portion of the State as possible.

Missouri Central District Fair.

The St. Louis Editor acknowledges the receipt of an invitation to deliver the address at the next annual fair of this society, to be held at Boonville, Oct. 4, 5, 6 and 7th. He accepts the invitation and will be present if health permits.

ST. CLAIR CO., ILL., AGRICULTURAL FAIR.—We have accepted an invitation to address the farmers of St. Clair county, at their next annual fair to be held at Belleville, Sept. 1st, 2d and 3d. The address will be delivered the first day.

GASCONADE COUNTY, MO., FAIR.—This exhibition will come off September 2d and 3d. We have been invited to address the farmers and fruit growers of the county on the occasion and hope to be able to do so.

HARVESTING.—The weather, generally, has been favorable to the farmers for harvesting their crops—but the crops have been light, except the grass crop—though many of our correspondents inform us that their wheat crop has been excellent. This has been the case however, in only a few limited localities.

ANNUAL SALE OF THE BOURBON CO., DURHAM CATTLE ASSOCIATION.—We prepared for publication a notice of the second annual sale of cattle by this association, which took place at Paris, Ky., on the 3d of June, to appear in our July number. The notice was forwarded to the printer, but by some accident, disappeared from his case and had not been found when that number went to press. We deem it due to our Bourbon friends to make this explanation, and the more so because the report of Mr. Alexander's sale which occurred the day before appeared in full in our columns.

EFFECTS OF HEAT ON CATTLE.—A letter from Clinton, Ohio, to the Ohio Farmer, dated July 5th, states that John Rider, of that county, lost sixteen head of cattle on the Wednesday previous, by the extreme heat. They were watered in the morning, and driven to the pasture, without shade or water, and, before night, the above number died. The writer of the letter lost a colt from the same cause.

In Hartford, Conn., on the Friday previous, Col. Colt lost three head of oxen by the heat, and, on an internal examination their fat was found to be melted. They were worked moderately in the forenoon and died in the afternoon.

These facts suggest hints by which farmer's may save their cattle from great suffering, as well as themselves from pecuniary loss.

A Day at Herman.

We recently spent a day at Herman, Mo., with our friend Husmann, visiting the vineyards and orchards in the vicinity. Owing to the continued wet weather in the early part of the season, the grapes mildewed quite badly and there will hardly be half a crop raised. The Catawba is the principal variety cultivated, for wine purposes, but Norton's Virginia Seedling is becoming the favorite vari ty, and will, without doubt, in a few years, supercede it. We noticed that it had almost entirely escaped the mildew this season. The wine is preferred by most persons to the Catawba. The Lenoir is cultivated to some extent and makes, to our taste, a very delicious wine. The plant is rather tender, however, and, on this account, may not come into general cultivation.

Mr. Husmann has associated with him in the nursery business, Mr. C. C. Manwaring, a gentleman educated to the business, and we hope that they may meet with success in the prosecution of their enterprise.

F. R. ELLIOTT, author of the "Western Fruit Book," has removed to St. Louis, Mo, where he intends to devote his time to Horticultural pursuits, Landscape Gardening, &c. We cordially welcome him among us.

AMERICAN AGRICULTURIST IN GERMAN.—Orange Judd, Esq., the enterprising editor and proprietor of the above paper, now issues a German edition of it. Those wishing to subscribe will address him at New York.—Price $1,00 a year.

PEAR CULTURE.—A Manual for the Propagation, Cultivation and Management of the Pear Tree. By Thos. W. Field; 12 Mo., 286 pp. A. O. Moore, New York.

The author of this work is an enthusiastic and successful cultivator of the pear. The work embraces all the information on the subject up to the present period. It is principally devoted to an explanation of the best modes of propagation and cultivation, and also contains descriptions of most or all of our finest pears. The work is clearly illustrated with cuts of fruits, and of the mode of propagation, &c., &c. From the well known reputation of the author, this book will be eagerly sought after by the amateur and gardener and will be found particularly valuable to these who are just entering upon the cultivation of this choice fruit, as well as to to those of more extensive experience.

BEST FARMS—STEAM PLOW.—There seems to be an increased competition for the New York State Agricultural Society's premiums. No less than ELEVEN FARMS have been entered for competition for the premiums offered the present year. Seven of these are dairy farms, all located in Lewis county. No premiums offered by Agricultural Societies are productive of greater, permanent good, than those offered for the best managed farms.

One entry has also been made for the premium of $250, offered by the Society, for a machine to plow satisfactorily by steam.

CHARLESTON, ILL., July 15.

Times are very dull here, and agricultural prospets gloomy. Wheat very moderate both in quantity and quality. Oats entirely destroyed by rust. Corn will make a third or a half a crop. Grass will be abundant. C. H. H.

Sheep for Texas.

EDITORS OF THE VALLEY FARMER:—I take much interest in sheep and wool growing and would call your attention to a lot of bucks and ewes, now awaiting shipment at St. Louis for Texas. They were selected by Maj. Darling from the celebrated flocks of Mr. Hoppin, Mr. Leonard, and others, of Sangamon county, Ill. Maj. Darling intends the ewes for his own breeding and a portion of the bucks for sale.

I have for many years been a close observer of the different breeds of sheep, and must give my preference first to the French Merino, next to the Spanish, while the Saxony are far behind in size, hardiness and weight of fleece. While our French Merino bucks will shear from 10 to 15 pounds annually the Saxony will cut from 7 to 9 pounds. The Silesian sheep have been introduced of late and are a very fine sheep, but for our cold climate I think the Rambouletto are far in advance of all other breeds.

Maj. Darling takes with him some of the best sheep that have ever left our State. They would attract attention at any State fair in the Union. Texas must soon stand at the head of all the States in wool growing if the farmers avail themselves of such opportunities, as they have, over us; for, while here, the expense of keeping sheep at the lowest calculation is one dollar per head, in Texas it is less than fifteen cents per head, making in the item of keeping alone, $850 difference on every thousand head—and, as our wool growers get rich here, what must be the profits in Texas? There, it is unnecessary to feed in the winter—the sheep graze all the year round, and not one winter in five is it necessary to feed them a mouthful.

Maj. Darling has been compelled to pay heavy prices for the sheep that he has taken with him, as he has selected only the purest and best breeds, and as he has all his life been engaged in the sheep business he knows the importance of making the most judicious selections.—People cannot get the best of animals, or the best of breeds without paying well for them, and the people of Texas may consider themselves highly favored in being able to obtain such sheep as Maj. Darling takes with him. G. H.

MACOUPIN CO., ILL.

CLAY COUNTY, MO., July 9th, '58.

MR. COLMAN:—Thinking a few lines from this section of country would be acceptable to the pages of your widely spread journal, I hasten to give you a short sketch of things in general.

And, first of all, our community much regretted that the continued floods of rain prevented you from meeting your appointments in this section, on your late tour—manifesting a great desire to listen to a lecture from you on agriculture. But we know that the roads were at that time impassable, and can only hope that early convenience will allow you to make us other appointments.

Farmers are generally very much discouraged with their crops in this section, the wheat crop being almost entirely ruined by the late heavy rains or the rust. Some contend, however that it was not the rust, but that the ground being so saturated caused it to perish. I think myself, the bounty of rain was the entire cause. The oat crop is a total failure. Many fields of oats look very ripe, the rust having turned them perfectly yellow;

they also have a very noxious smell. The hemp crop is also a very "poor show," and unless a change for the better soon takes place many fields will not be cut. Our prospect for corn is somewhat better where farmers have been able to keep it clear of a "roof" of grass, which is not often the case. Still, if the season continues favorable, enough will be made for home consumption. Potatoes are very promising.

Almost every farmer is making an effort to raise a crop of Hungarian grass, but owing to the dficiency of the seed sown, few have obtained a good stand, on the ground. Where it stands thick a bountiful crop is anticipated. If this proves to be as represented, our county will abound in hay. * * *

The New American Cyclopedia,

A Popular Dictionary of General Knowledge; Edited by George Ripley and Charles A. Dana. Published by Appleton & Co., 346 and 348 Broadway, New York.

We are indebted the publishers, through Mr. L. Bushnell, agent, for the first two volumes of this invaluable work. No library is complete without it. It contains a vast fund of accurate and copious information on science, art, agriculture, commerce, manufactures, law, medicine, literature, philosophy, mathematics, astronomy, history, biography, geography, religion, politics, travels, chemistry, mechanics, inventions and trades.

The work will be published exclusively by subscription, in fifteen large 8 vo. volumes, each containing 750 pages. Volumes 1 and 2 are now ready, each containing over 2,500 original articles. They will be sent by mail free of postage. Price per volume, cloth $3; library style, leather $3,50; half morocco $4; half Russia, extra, $4,50.

In order to the attainment of a large circulation, the publishers also issue the New Cyclopedia in 25 cent numbers, containing 64 pages each, and $1 parts, containing 256 pages each, (every fourth number and each $1 part contains a steel plate portrait of some distinguished man). Thus those who prefer paying for the work at the rate of 25 cents, $1 or $3 at a time, will be enabled to do so—a desideratum which it is thought persons of moderate means will gladly avail themselves of. Our readers will find an article on Agricultural Schools, in the present number, taken frem this work.

State Fairs for 1858.

The following State Fairs are to be held during 1858:

Alabama, at Montgomery, Oct. 18 to 22.
California, at Marysville, Aug. 23 to 28.
Connecticut, at Hartford, Oct. 12 to 15.
Illinois, at Centralia, Sept. 14 to 18.
Indiana, at Indianapolis, Oct. 4 to 9.
Iowa, at Oscaloosa, Sept. 27 to Oct. 1.
Kentucky, at Louisville, Sept. 27 to Oct. 1.
New Hampshire, at Dover, Oct. 6 to 8.
New Jersey, at Trenton; Sept. 14 to 17.
New York, at Syracuse, Oct. 5 to 8.
Ohio, at Sandusky, Sept. 14 to 17.
Rhode Island, at Providence, Sept. 14 to 17.
Vermont at Burlington, Sept 14 to 17.
Virginia, at Petersburg, Oct. — to —.
Wisconsin at Madison, Oct, 4 to 7.
United States, at Richmond, Va., Oct. 25 to 30.

Fairs in Missouri for 1858.

St. Louis Agr. and Mech. Association, Sept. 6 to 12.
N. E. District, Paris, Sept, 13 to 18.
S. W. District, Springfield, Sept. 20, 21, 22.
S. E. District, Oct. 7, 8. 9.
Howard Co. Agr. Soc., Fayette, Sept. 14 to 18.
Gasconade co. " " Sept. 2 3.
Pettis Co., " " Georgetown, Sept. 14 to 17.
Lafayette Co. " " Lexington, Sept. 14 to 18.
N. W. District, " St. Joseph, Sept. 21 to 25.
Saline C., " " Miami, Sept. 21 to 24.
Boone Co., " " Columbia, Sept. 30 to Oct. 2.
Central District " Boonville, Oct. 4 to 10
Morgan Co., " " Sept. 28 to Oct. 1.
Marion co., " " Oct. 12 to 16.
Chariton co., " " Sept. 27 to 30.
Calloway co., " " Sept. 21 to 25.
Pike co., " " Sept. 21, 22, 23, 24.
Cass co., " " Sept. 21, 22. 23. 24.
Jackson co., " " Sept. 28 to Oct. 1st.
Clay co.. " " Oct. 5, 6, 7.

FAIRS IN ILLINOIS.

Illinois State Fair, Centralia, Sept. 14.
St. Clair county fair, Belleville, Sept. 1 to 3.
Adams county, Ill., Quincy, Sept. 29 to Oct. 1.
Macoupin county fair, Oct. 5, 6, 7.
Union Co. fair, Sept. 10, 11.

Will the Secretaries of State and county societies inform us of the time and place of holding their fairs this fall, so that they may appear in this list?

CONTENTS OF NO. 8.